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THE NIMBUS 6 DATA CATALOG

VOLUME 2

1 SEPTEMBER 1975 THROUGH 31 OCTOBER 1975

DATA ORBITS 1083 THROUGH 1900

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GODDARD SPACE FLIGHT CENTER

GREENBELT, MARYLAND

THE NIMBUS 6 DATA CATALOG

VOLUME 2

1 September 1975 through 31 October 1975
Data Orbits 1083 through 1900

Prepared by

Management and Technical Services Company
Beltsville, Maryland

For the

Landsat/Nimbus Project

January 1976

GODDARD SPACE FLIGHT CENTER
Greenbelt, Maryland

FOREWORD

This is the second volume of a series of catalogs to be published by the National Aeronautics and Space Administration to document data acquired from the Nimbus 6 meteorological satellite. This volume covers the period from 1 September 1975 through 31 October 1975. Subsequent catalogs will contain documentation for succeeding periods throughout the useful lifetime of Nimbus 6.

Background information concerning the Nimbus 6 meteorological satellite system and a description of the experiments and data formats has been published separately in The Nimbus 6 User's Guide. Post-launch User's Guide information changes and corrections are included in the data catalogs. The Nimbus 6 catalogs present the type of data available, anomalies in the data, if any, and geographic location and time of the data.

The assembly and editing of this catalog was accomplished by the Management and Technical Services Company (MATSCO), Beltsville, Maryland, under contract number NAS5-20694 with the Goddard Space Flight Center NASA, Greenbelt, Maryland.

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SECTION 1

SUMMARY OF OPERATIONS

1.1 Introduction

Nimbus 6 was successfully launched from the Western Test Range, Vandenberg Air Force Base, California at 08 hr 12 min 00 sec GMT on 12 June 1975. The orbit was nearly circular at 1093 km × 1105 km. Satellite operations from launch through 14 July (orbit 425) consisted of engineering evaluation of all spacecraft systems. As a result of that effort, data reception, accountability and processing were intermittent during that period. Therefore, Volume 1 in this catalog series mainly reflects documentation from orbit 426 (14 July) through orbit 1082 (31 August). This volume documents data reception and processing from orbit 1083 (1 September) through orbit 1900 (31 October 1975).

Because the spacecraft power output is limited, all experiments are not on at the same time. Normally, the PMR, THIR, SCAMS, and HIRS experiments operate all the time. (However, the HIRS was off between 28 September to 6 October and from 22 October through 31 October because of instrument problems.) TWERLE is on during the daylight portion of almost all orbits and during a part of the nighttime portion of many orbits. The ERB, LRIR, and ESMR experiments normally split their operating time - the ERB and LRIR are on two days while the ESMR is off, followed by the ESMR being on for two days while the ERB and LRIR are off. The T&DRE operates infrequently, with the power load adjusted when it is on. The on-off cycle for each experiment is shown in Table 2-2 in Section 2 of this catalog.

Because of an anomaly in the functioning of the High Data Range Storage Subsystem (HDRSS) B, first noted during orbit 33 (14 June), HDRSS B has been limited to 65 minutes of record capability (out of a possible 120 minutes). With only HDRSS A available for full-time use, there are occasional periods when global experiment coverage is not obtained. (These occur when the Orroral, Australia STDN station is not available for playback of recorded experiment data.) The areas not covered are usually over the western part of the Pacific Ocean and/or the eastern part of the Atlantic Ocean.

Subsections 1.2 through 1.10 of this catalog summarize the operational highlights of the individual experiments, present preliminary experiment results, and call attention to known data anamolies. Section 2 lists the on-off times for each experiment and provides a method for determining the geographical coverage of each experiment. Section 3 shows selected HIRS, SCAMS and ESMR images, and Section 4 presents THIR montages. Section 5 presents corrections to The Nimbus 6 User's Guide.

The user is referred to The Nimbus 6 User's Guide for a complete description of each experiment and to Section 1.7 of that Guide for the requesting procedure and sources for all data. Sections 2, 3, and 4 of this Data Catalog should help users select data to meet their needs.

1.2 The Temperature Humidity Infrared Radiometer (THIR) Subsystem

The quality of the THIR data from both channels (11.5 μm and 6.7 μm) and telemetry have been good since launch. Daily world montages of the THIR are presented in Section 4 of this catalog. All processed THIR film is archived and available through the National Space Science Data Center, as is all available THIR digital data. The THIR digital products are processed to final format only on request. Users should refer to Section 4 of this catalog, and to Sections 1.7 and 2.4 of The Nimbus 6 User's Guide for a discussion of the formats and procedure to order these products.

1.3 The High Resolution Infrared Radiation Sounder (HIRS) Experiment

The quality of the HIRS data has deteriorated during this catalog period. Part of the deterioration is believed to be due to contamination of the detector optics, and some is due to an increase in the HIRS patch temperature. In addition, the errors in the format of the bit stream from the HIRS instrument have significantly increased since orbit 1140 (5 September). The bit stream timing is controlled by a filter/chopper wheel, and the motion of this wheel creates a mechanical resonance which affects the bit stream timing. The HIRS processing software is being modified so that some of the effects of these problems may be removed, improving the usefulness of the data.

The HIRS electronics and filter/chopper motor were turned off twice during this catalog period. Once from orbit 1442 (27 September) to orbit 1559 (6 October) and from orbit 1774 (22 October) through the end of this catalog period (orbit 1900, 31 October).

1.4 The Scanning Microwave Spectrometer (SCAMS) Experiment

The SCAMS performance was good throughout this catalog period. The only problem was that the gain on channel 4 decreased during this period. However, the calibration system allows the radiometer to be accurately calibrated in spite of this loss of gain. The other channels and the scan mechanism operated without problems.

Table 1-1 gives a preliminary error analysis for SCAMS retrievals of mean temperatures for three atmospheric layers. This analysis used the National Meteorological Center (NMC) grid for August 7-9, 1975 as verification. The geographical region was the entire Northern Hemisphere, excluding only areas of more than 1 km elevation. This analysis was done using the M.I.T. SCAMS Output Tapes, which incorporate corrections for instrument sidelobes, surface emissivity, and surface elevation. The mean errors are generally smaller than the rms about the mean,

Table 1-1

SCAMS Errors for Mean Layer Temperatures using the NMC Grid of 7-9 August as Verification

Scan Angle (deg)	Layer Boundaries (mb)	Mean Error (°K)	rms Error (°K)	rms about Mean (°K)	Predicted rms Error (°K)	Standard Deviation of Verification (°K)
0	1000-500	1.1	1.8	1.4	1.8	7.2
0	500-250	1.4	2.0	1.4	1.9	5.5
0	250-100	0.3	1.2	1.2	1.7	7.4
-21.6	1000-500	1.0	1.7	1.4	1.8	7.3
-21.6	500-250	1.4	2.0	1.4	1.9	5.7
-21.6	250-100	0.6	1.3	1.2	1.7	7.4
-43.2	1000-500	-0.1	1.3	1.3	1.8	6.7
-43.2	500-250	1.0	1.7	1.4	1.7	5.6
-43.2	250-100	1.6	2.1	1.3	1.8	7.0

which indicates that the instrument calibration is nearly correct. Also listed in Table 1-1 are predicted rms errors, which agree well with the actual performance.

The EIS displays for orbits 1083 through 1900 were unchanged from the previous period, with the exception of the grey scale limits for liquid water (parameter 12) which were changed on orbit 1426 (26 September).

1.5 The Electrically Scanning Microwave Radiometer (ESMR) Experiment

The performance of the ESMR has been good since launch. Because of spacecraft power limitations, the normal on-off sequence for ESMR is two days on followed by two days off. In a departure from this sequence, the ESMR was off between 15 and 26 September and between 6 and 13 October. During the 15 to 26 September period the ESMR was off to allow the LRIR to collect data for correlation with balloon launches. During the 6 to 13 October period it was off to allow the ERB experiment to collect solar data.

Selected ESMR images for this catalog period appear in Section 3, and corrections to the ESMR section of The Nimbus 6 User's Guide are in Section 5 of this catalog.

1.6 The ERB Radiation Budget (ERB) Experiment

During this period several anomalies occurred in the ERB subsystem. Most of the problems were related to scanning operations and have been attributed to combined encoder/wire harness (cable) malfunctions. These problems primarily affect the scanning channels 15 through 22. The scan mode of operation was not used between orbit 1069 (31 August) and orbit 1306 (17 September) while these problems were being investigated. Scanning problems persisted after orbit 1306, when the scan mode was again tried. Almost all scan operations since then have been in modes 3 and 4, which seem least affected. (See Figure 6-3 on page 116 in The Nimbus 6 User's Guide for scan mode 3 and 4 configurations.)

Checks indicate that about four percent of the September scan channel data was unacceptable. The percentage of unacceptable data increased to about 30 percent in October, during the most severely affected orbits. Periodic inflight calibrations of the long wavelength channels show negligible deviation from the calibrations given in the first Nimbus 6 Data Catalog.

Between orbit 1560 (6 October) and orbit 1653 (13 October) the ERB scan mode was turned off each orbit for 40 minutes centered on a point near the South Pole where the satellite passes from darkness into daylight (the satellite night-to-day transition). This mode was used to minimize instrument variables while solar data was collected by ERB solar channels 1 through 10.

1.7 The Limb Radiance Inversion Radiometer (LRIR) Experiment

LRIR performance has been satisfactory during this period. However, problems with the shaft encoder (which became serious around orbit 750) caused the loss of approximately 25 percent of the data. With this exception, the data quality is good. Limb tracking is excellent and the cooler performance was good throughout this period.

The LRIR was on from 15 through 26 September to acquire data for correlation with balloon data from balloons launched from White Sands, New Mexico.

1.8 The Pressure Modulator Radiometer (PMR) Experiment

The PMR performance this period was satisfactory. Data quality was good. All acquired data was routinely transmitted from GSFC to the experimenter at Oxford, England.

PMR scanning operations were normal up to orbit 1726 (19 October) when channel 1 scan operation became anomalous. The scan of this channel appeared to operate between ±10° of nadir rather than the normal ±15° of nadir. Therefore, the scan mode of this channel was disabled during orbit 1727 (19 October) and was placed in the nadir view mode for the remainder of this catalog period. The data output is normal in this operation mode.

1.9 The Tropical Wind Energy Conversion and Reference Level Experiment (TWERLE)

The TWERLE continued to operate very well during this catalog period. Determinations of locations for reference platforms indicate that most are located within 1.5 km of their true positions.

Over 500 platforms had been activated by 9 October. Table 1-2 shows distribution of these platforms among the TWERLE experiments. The full address of each experimenter is given in Table 9-2 in The Nimbus 6 User's Guide. (Corrected addresses for many of these experimenters, and addresses for several new experimenters, are given in Section 5.8 of this catalog.) Anyone interested in results from a particular experiment should write to the principal investigator for that experiment.

1.10 The Tracking and Data Relay Experiment (T&DRE)

The T&DRE performance was satisfactory during this catalog period. The orbits when the T&DRE was operated are listed in Table 2-2 in Section 2. Significant accomplishments of T&DRE are discussed in Data Catalog Volume 1, Section 1.10.

Table 1-2

TWERLE Platform Activity as of 9 October 1975

Principal Investigator	Platform			
	Type	Active	Inactive	Total
Dr. Paul R. Julian Boulder, Colorado	Balloons	88	184	272
Professor Norbert Untersteiner Seattle, Washington	Ice Buoys	14	10	24
Dr. Hanson Miami, Florida	Drifting Buoys	8	15	23
Mr. Vincent Lally Boulder, Colorado	Balloons	4	17	21
Dr. P. Richardson Woods Hole, Massachusetts	Drifting Buoys	0	1	1
Arnold Gordon Palisades, New York	Drifting Buoys	6	17	23
Tim P. Barnett La Jolla, California	Drifting Buoys	8	7	15
Mr. Robert Kee Washington, D. C.	Drifting Buoys	0	2	2
Mr. R. E. Vockeroth Ontario, Canada	Buoy	0	1	1
Mr. Jack Lentfer Anchorage, Alaska	Polar Bears	0	6	6
Mr. B. M. Buck Santa Barbara, California	Drifting Buoys	3	1	4
Fernando DeMendonca Sao Paulo, Brazil	Buoys	0	2	2
Mr. George Cresswell Cronulla, Australia	Drifting Buoys	11	2	13
Dr. A. Dyer Mordialloc, Australia	Drifting Buoys	0	3	3
Professor Lacombe Paris, France	Drifting Buoy	1	0	1

Table 1-2 (continued)

Principal Investigator	Platform			
	Type	Active	Inactive	Total
C. K. Jensen/J. Nordo Oslo, Norway	Buoys	1	1	2
T. Haegh/T. Vinje Oslo, Norway	Ice Buoys	1	4	5
Mr. Frank Anderson Congella, South Africa	Drifting Buoys	2	6	8
Professor H. Stommel Cambridge, Massachusetts	Drifting Buoys	0	5	5
Dr. A. D. Kirwan, Jr. College Station, Texas	Drifting Buoys	0	4	4
Mr. H. N. Brann Melbourne, Australia	Drifting Buoys	1	4	5
Professor Morel Paris, France	Balloons & Buoys	1	46	47
Mr. J. Garrett Victoria, B. C. Canada	Drifting Buoys	2	3	5
Professor Tchernia Paris, France	Drifting Buoys	1	4	5
R. R. Dickson Lowestoft, Suffolk, U. K.	Drifting Buoys	2	4	6
Dr. Michael Hall Bay St. Louis, Mississippi	Buoys	4	4	8
Mr. David Thomas, Jr. Hampton, Virginia	Ocean Platforms	0	2	2
Dr. J. Williamson La Jolla, California	Balloons	0	1	1
Mr. J. C. O'Rourke Calgary, Canada	Sea Ice Platforms	2	0	2
TOTALS		160	356	516

SECTION 2

THE ORBITAL ELEMENTS AND DATA AVAILABILITY ON-OFF TIMES

This section presents the Nimbus orbital elements for selected epochs tabulates the time when each of the experiments was recording data, and gives procedures for determining the time and orbit when the satellite is over a given geographical area (and thus determining the location of coverage for each experiment).

The Nimbus 6 Brouwer Mean orbital elements for selected epochs during September and October 1975 are listed in Table 2-1.

As the elements indicate, the orbital period is slowly increasing and the satellite is moving into a slightly higher orbit. This effect has been attributed to the thrust given by the solid methane and ammonia sublimating from the LRIR solid cooler. The effect on the orbit is the opposite of that caused by atmospheric drag. The elements listed in Table 2-1 do not account for this effect. When these elements are used more than seven days from epoch, location errors of more than 60 km (about ten seconds of time), can be expected. If more accurate ephemeris are needed for a specific time period, write to the Nimbus Project, Code 430, Goddard Space Flight Center, Greenbelt, Maryland 20771. It is anticipated that this effect will continue until the beginning of 1976, at which time the methane and ammonia will be completely depleted, no longer giving a thrust to the satellite.

The data availability on-off times, listed in Table 2-2, are the times when the data from each experiment was recorded on a HDRSS and processed through the Meteorological Data Handling System (MDHS) at Goddard Space Flight Center. The Table 2-2 header labels and their meaning are as follows:

- INT ORBIT AND STDN

 The satellite orbit number in progress when the satellite data is relayed to a ground station is called the interrogation orbit (INT ORBIT). The ground stations receiving the Nimbus 6 satellite data are part of the Spacecraft and Tracking Data Network (STDN). There are three STDN stations receiving Nimbus 6 experiment data: Fairbanks, Alaska (denoted by the letter "A"), Rosman, North Carolina (R), and Orroral, Australia (O).

- HDRS

 The HDRS (High Data Rate Storage System-HDRSS) is the acronym for the satellite tape recorder system. Recorder "A" or "B" (or both) is played back during each STDN station interrogation.

Table 2-1

Nimbus 6 Brouwer Mean Orbital Elements
for September and October 1975

Epoch	Universal Time	8 Sept 75 00 00 00	22 Sept 75 00 00 00	8 Oct 75 00 00 00	22 Oct 75 00 00 00
Semi-Major Axis	Km	7478.849	7479.304	7479.830	7480.285
Eccentricity		.000830	.000796	.000752	.000728
Inclination	Degrees	99.956	99.956	99.956	99.956
Argument of Perigee	Degrees	40.685	7.339	326.995	291.768
Right Ascension of Ascending Node	Degrees	162.847	176.629	192.375	206.149
Height of Perigee	Km	1094.48	1095.19	1096.04	1096.67
Height of Apogee	Km	1106.89	1107.09	1107.29	1107.57
Anomalistic Period	Minutes	107.27775	107.28754	107.29884	107.30863
Motion of Perigee	Deg. per Day	-2.4269	-2.4264	-2.4258	-2.4253

- HDRS TIME ON-OFF

 The HDRSS ON and OFF times are given in GMT to the nearest minute. The ON time is the time the (A or B) HDRSS begins recording experiment measurements; the OFF time is when it stops recording. Usually, the ON and OFF times occur when the satellite is within acquisition range of one of the three STDN stations. The time span between each ON and OFF usually covers part of two DATA ORBITS.

- LRIR, THIR, TDRE, SCAM ERB, PMR, TWRL, HIRS

 These are the acronyms for each of the experiments on Nimbus 6. (Acronyms longer than four letters have been shortened.) The column beneath each acronym contains a series of "X's" or "blanks." Each "X" in the column indicates that the data for that experiment was processed at GSFC. A "blank" usually indicates that the experiment was turned off for the HDRSS ON-OFF time in that line. A single "blank" in the middle of a series of "X's" frequently means that the experiment was on during that time span but the data has not been processed, or is unavailable for any of several reasons.

- DATA ORBIT

 A DATA ORBIT begins when the satellite crosses the equator heading in a northbound direction, and ends after the satellite has circled the earth and is about to cross the equator heading in a northbound direction. The DATA ORBIT number increases by one with each successive northbound equator crossing. The ASCENDING NODE and DESCENDING NODE information is referenced to the DATA ORBIT number.

- ASCENDING NODE TIME (and) LONG

 The ASCENDING NODE is the point in the orbit when the satellite crosses the equator heading in a northbound direction. The TIME of ASCENDING NODE is given in hours (HR), minutes (MN), and seconds (SS) GMT. The longitude (LONG) of ASCENDING NODE is given to the nearest tenth of a degree of east (E) or west (W) longitude. For Nimbus 6, the ascending node crossings always occur during the daytime portion of the orbit at approximately 11:45 a.m. local time.

- DESCENDING NODE TIME (and) LONG

 The DESCENDING NODE is the point within a DATA ORBIT when the satellite crosses the equator heading in a southbound direction. The TIME of DESCENDI NODE is given in hours (HR), minutes (MN), and seconds (SS) GMT. The longitude (LONG) of DESCENDING NODE is given to the nearest degree of east (E) or west (W) longitude. The descending node crossings always occur during the nighttime portion of each orbit at approximately 11:45 p.m. local time.

Table 2-2 together with the World Map (Figure 2-1) and the vellum Subsatellite Tracks Overlay attached to the back of this catalog, can be used to determine approxima geographic coverages and times for experiment data that the user may wish to order. The Overlay contains 14 correctly spaced satellite subpoint tracks, which end at the approximate earth day-to-night transitions. The tracks contain time ticks spaced 5 minutes apart, appropriately annotated at the edge of the overlay and referenced to the equator.

A Subsatellite Tracks Overlay is correctly oriented with the World Map when the ascending or descending node line (equator) on the overlay coincides with the 0-degree latitude line (equator) of the World Map.

Orbital coverage for all orbits on any day is then determined by placing one of the orbit tracks on the overlay at its appropriate ascending node (for daytime data) or descending node (for nighttime data) longitude. (The nodes for each day are listed in Table 2-2.) The orbit track (or tracks) which covers the area of interest is readily apparent.

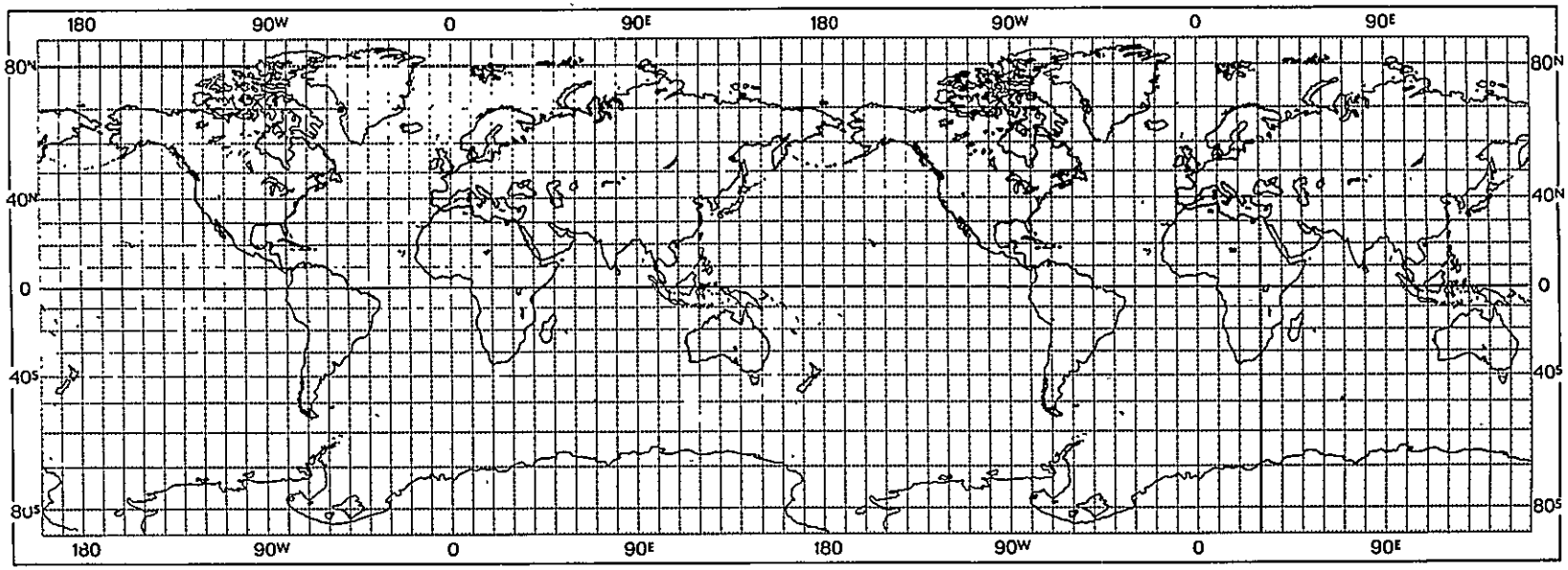


Figure 2 - 1 World Map

The time (GMT) of satellite passage over an area of interest is calculated by adding or subtracting the minutes from equator crossing (as determined from the overlay) to the appropriate node time (derived from Table 2-2). For daytime orbits, time is added to the ascending node for areas north of the equator, and subtracted from the ascending node for areas south of the equator. For nighttime orbits, time is subtracted from the descending node for areas north of the equator, and added to the descending node for areas south of the equator.

To determine if an experiment was ON during the calculated orbit and time of interest, the user must first "fit" the calculated time into the correct ON-OFF interval of an interrogation orbit listed in Table 2-2. Then the user must check the appropriate experiment column for that line. If an "X" is in the column, the experiment was on and the data has been processed. If the column is "blank", the experiment was off (or the data was not processed) and no data for that orbit is available.

An alternate method of determining geographic coverage and time of data is to use the method described in Section 4. The THIR montages and the vellum Location Guides (attached in the back of this catalog) are used to locate the geographical coverage of each orbit of THIR. The data coverage from other experiments will be within the limits of each THIR swath. The TIME of coverage over a particular area is obtained by using Table 4-1 and adding or subtracting this computed time to the appropriate ascending or descending node time given in Table 2-2.

Each request for data should contain, as a minimum, the name of the experiment for which data is requested, the calendar date of the data, the orbit, the time (GMT) interval of the data needed, and the geographic limits of the area of interest. The procedures described above will provide this information.

The nature and format of the data available from each experiment are explained in detail in the respective sections of The Nimbus 6 User's Guide. The appropriate sources for requesting the various data types are listed in Section 1.7 of the same manual.

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
1 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
L0820	A	2219	0006				X		X	X	X	X	1083	011437	E157.8	020811	W035.6
L0820	B	0006	0058				X		X	X	X	X	1084	030200	E131.0	035534	W062.5
L0830	A	0106	0244				X		X	X	X	X	1085	044923	E104.1	054257	W089.3
1085R	A	0251	0436	X	X		X		X	X	X	X	1086	063646	E077.2	073020	W116.2
1085R	B	0435	0526	X	X		X		X	X	X	X	1087	082409	E050.4	091743	W143.0
1086R	A	0531	0715	X	X		X		X	X	X	X	1088	101132	E023.6	110506	W169.8
1087A	A	0720	0856	X	X		X		X	X	X	X	1089	115855	W003.3	125229	E163.3
1088A	A	0900	1042	X	X		X		X	X	X	X	1090	134618	W030.1	143952	E136.5
1089A	A	1046	1229	X	X		X		X	X	X	X	1091	153641	W057.0	162715	E109.6
1090A	A	1233	1414	X	X		X		X	X	X	X	1092	172104	W083.8	181438	E082.8
1091A	A	1418	1558	X	X		X		X	X	X	X	1093	190827	W110.7	200202	E055.9
1092A	A	1602	1742		X		X	X		X	X	X	1094	205550	W137.5	214925	E029.1
1093A	A	1746	1925		X		X	X		X	X	X	1095	224313	W164.4	233648	E002.3
1094A	A	1929	2113		X		X	X		X	X	X					
1095A	A	2118	2259		X		X	X		X	X	X					
10960	A	2257	0000				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
2 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
10960	B	0000	0158				X	X		X	X	X	1096	003045	E168.8	012419	W024.7
10970	A	0207	0348				X	X		X	X	X	1097	021808	E141.9	031142	W051.5
1098R	B	0348	0443		X		X	X		X	X	X	1098	040531	E115.1	045906	W078.3
1099R	A	0446	0635		X		X	X		X	X	X	1099	055254	E088.2	064629	W105.2
1100A	A	0639	0812		X		X	X		X	X	X	1100	074017	E061.4	083352	W132.0
1100A	A	0816	0958		X		X	X		X	X	X	1101	092740	E034.5	102115	W158.8
1102A	A	1002	1145		X		X	X		X	X	X	1102	111503	E007.7	120838	E174.3
1103A	A	1149	1330		X		X	X		X	X	X	1103	130226	W019.2	135601	E147.4
1104A	A	1335	1515		X		X	X		X	X	X	1104	144950	W046.0	154324	E120.6
1105A	A	1519	1659		X		X	X		X	X	X	1105	163713	W072.9	173047	E093.8
1106A	A	1703	1843		X		X	X		X	X	X	1106	182436	W099.7	191810	E066.9
1107A	A	1847	2027		X		X	X		X	X	X	1107	201159	W126.5	210534	E040.1
1108A	A	2032	2215		X		X	X		X	X	X	1108	215922	W153.4	225257	E013.2
11090	B	2213	2316				X	X		X	X	X	1109	234645	E179.7	004020	W013.6

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
3 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T H D E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
11090	A	2317	0115				X	X		X	X	X	1110	013408	E152.9	022743	W040.5
11100	A	0124	0305				X	X		X	X	X	1111	032131	E126.1	041506	W067.3
1111R	B	0304	0403		X		X	X		X	X	X	1112	050854	E099.2	060229	W094.2
1112R	A	0403	0549		X		X	X		X	X	X	1113	065618	E072.4	074952	W121.0
1113A	A	0554	0727		X		X	X		X	X	X	1114	084341	E045.5	093716	W147.9
1114A	A	0733	0914		X		X	X		X	X	X	1115	103104	E018.7	112439	W174.7
1115A	A	0918	1101		X		X	X		X	X	X	1116	121827	W008.2	131202	E158.4
1116A	A	1105	1248		X		X	X		X	X	X	1117	140550	W035.0	145925	E131.6
1117A	A	1252	1434		X		X	X		X	X	X	1118	155313	W061.9	164648	E104.8
1118A	A	1438	1615		X		X	X		X	X	X	1119	174036	W088.7	183411	E077.9
1119A	A	1636	1804	X	X		X		X	X	X	X	1120	192800	W115.5	202154	E051.0
1120A	A	1808	1946	X	X		X		X	X	X	X	1121	211523	W142.4	220858	E024.2
1121A	A	1950	2134	X	X		X		X	X	X	X	1122	230246	W169.3	235621	W002.6
1122A	A	2137	2319	X	X		X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
4 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T H D E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
11230	A	0021	0219				X		X	X	X	X	1123	005009	E163.9	014344	W029.5
1125R	A	0227	0412	X	X		X		X	X	X	X	1124	023732	E137.1	033107	W056.3
1125R	B	0410	0503	X	X		X		X	X	X	X	1125	042455	E110.2	051830	W083.2
1126R	A	0506	0650	X	X		X		X	X	X	X	1126	061219	E083.4	070554	W110.3
1127A	A	0655	0830	X	X		X		X	X	X	X	1127	075949	E056.5	085317	W136.9
1128A	A	0837	1017	X	X		X		X	X	X	X	1128	094705	E029.7	104040	W163.7
1129A	A	1021	1204	X	X		X		X	X	X	X	1129	113428	E002.8	122803	E169.5
1130A	A	1208	1350	X	X		X		X	X	X	X	1130	132151	W024.0	141526	E142.6
1131A	A	1354	1535	X	X		X		X	X	X	X	1131	150915	W050.9	160250	E115.7
1132A	A	1539	1719	X	X		X		X	X	X	X	1132	165638	W077.7	175013	E088.9
1133A	A	1723	1904	X	X		X		X	X	X	X	1133	184401	W104.6	193736	E062.0
1134A	A	1908	2049	X	X		X		X	X	X	X	1134	203124	W131.4	212459	E035.2
1135A	A	2053	2237	X	X		X		X	X	X	X	1135	221847	W158.2	231222	E008.4
11360	B	2233	2336			X	X			X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
5 SEPTEMBER 1975

INT	H	HDRSS		L	T	T	S	E			T	H		ASCENDING		DESCENDING	
RBIT	D	TIME		R	H	D	C	S	E	P	W	I		NODE		NODE	
AND	R	ON	OFF	I	I	R	A	M	R	M	R	R	DATA	TIME	LONG	TIME	LONG
STDN	S	HRMN	HRMN	R	R	E	M	R	B	R	L	S	ORBIT	HRMNSS	DEGREE	HRMNSS	DEGREE
L1360	A	2336	0134			X	X			X	X	X	1136	000611	E174.9	005946	W018.5
L1370	A	0143	0323			X	X		X	X	X	X	1137	015334	E148.0	024709	W045.4
L138R	B	0323	0421	X	X		X		X	X	X	X	1138	034057	E121.2	043432	W072.2
L139R	A	0421	0607	X	X		X		X	X	X	X	1139	052820	E094.4	062155	W099.0
L140A	A	0613	0748	X	X		X		X	X	X	X	1140	071543	E067.5	080918	W125.9
L141A	A	0752	0935	X	X		X		X	X	X	X	1141	090307	E040.7	095642	W152.8
L142A	A	0940	1121	X	X		X		X	X	X	X	1142	105030	E013.8	114405	W179.6
L143A	A	1124	1308	X	X		X		X	X	X	X	1143	123753	W013.0	133128	E153.6
L144A	A	1313	1456	X	X		X		X	X	X	X	1144	142516	W039.9	151851	E126.7
L145A	A	1500	1637		X		X	X		X	X	X	1145	161240	W066.7	170615	E099.9
L146A	A	1641	1819		X		X	X		X	X	X	1146	180003	W093.6	185338	E073.0
L147A	A	1824	2005		X		X	X		X	X	X	1147	194726	W120.4	204101	E046.2
L148A	A	2009	2150		X		X	X		X	X	X	1148	213449	W147.3	222824	E019.4
L149A	A	2154	2339		X		X	X		X	X	X	1149	232213	W174.1	001548	W007.5
L1490	B	2337	0042				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
6 SEPTEMBER 1975

INT	H	HDRSS		L	T	I	S	E			T	H		ASCENDING		DESCENDING	
RBIT	D	TIME		R	H	D	C	S	E	P	W	I		NODE		NODE	
AND	R	ON	OFF	I	I	R	A	M	R	M	R	R	DATA	TIME	LONG	TIME	LONG
STDN	S	HRMN	HRMN	R	R	E	M	R	B	R	L	S	ORBIT	HRMNSS	DEGREE	HRMNSS	DEGREE
L1500	A	0041	0239				X	X		X	X	X	1150	010936	E159.0	020511	W034.3
L152R	A	0248	0431		X		X	X		X	X	X	1151	025659	E132.2	035034	W061.2
L152R	B	0430	0522		X		X	X		X	X	X	1152	044422	E105.4	053757	W088.1
L153R	A	0527	0710		X		X	X		X	X	X	1153	063146	E078.5	072521	W114.9
L154A	A	0715	0851		X		X	X		X	X	X	1154	081909	E051.7	091244	W141.7
L155A	A	0855	1037		X		X	X		X	X	X	1155	100632	E024.8	110007	W168.6
L156A	A	1041	1223		X		X	X		X	X	X	1156	115355	E002.0	124731	E164.6
L157A	A	1227	1409		X		X	X		X	X	X	1157	134119	W028.9	143454	E137.7
L158A	A	1413	1549		X		X	X		X	X	X	1158	152841	W055.7	162217	E110.9
L159A	A	1544	1736		X		X	X		X	X	X	1159	171605	W082.6	180940	E084.0
L160A	A	1740	1921		X		X	X		X	X	X	1160	190328	W109.4	195704	E057.2
L161A	A	1925	2107		X		X	X		X	X	X	1161	205052	W136.3	214427	E030.3
L162A	A	2111	2254		X		X	X		X	X	X	1162	223815	W163.1	233150	E003.5
L1630	B	2253	2352				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
7 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA-ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
11630	A	2355	0154				X	X		X	X	X	1163	002534	E170.0	011909	W023.4
11640	A	0202	0342				X	X		X	X	X	1164	021257	E143.2	030633	W050.2
1165R	B	0342	0439		X		X	X		X	X	X	1165	040021	E116.4	045556	W077.0
1166R	A	0440	0629		X		X	X		X	X	X	1166	054744	E089.5	064119	W103.9
1167A	A	0635	0808		X		X	X		X	X	X	1167	073507	E062.7	082843	W130.7
1168A	A	0812	0954		X		X	X		X	X	X	1168	092231	E035.8	101606	W157.6
1169A	A	0958	1139		X		X	X		X	X	X	1169	110954	E009.0	120529	E175.6
1170A	A	1143	1329		X		X	X		X	X	X	1170	125717	W017.9	135052	E148.7
1171A	A	1333	1510		X		X	X		X	X	X	1171	144440	W044.7	153816	E121.9
1172A	A	1514	1652	X	X		X		X	X	X	X	1172	163204	W071.6	172539	E095.0
1173A	A	1657	1838	X	X		X		X	X	X	X	1173	181927	W098.5	191302	E068.2
1174A	A	1843	2024	X	X		X		X	X	X	X	1174	200650	W125.3	210026	E041.3
1175A	A	2028	2210	X	X		X		X	X	X	X	1175	215414	W152.1	224749	E014.5
11760	B	2209	2312				X		X	X	X	X	1176	234137	W179.0	003512	W012.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
8 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
11760	A	2312	0110				X		X	X	X	X	1177	012900	E154.2	022236	W039.2
11770	A	0120	0259				X		X	X	X	X	1178	031623	E127.3	040959	W066.1
1178R	B	0259	0359	X	X		X		X	X	X	X	1179	050347	E100.5	055722	W092.9
1179R	A	0358	0543	X	X		X		X	X	X	X	1180	065110	E073.7	074445	W119.8
1180R	A	0547	0729	X	X		X		X	X	X	X	1181	083833	E046.8	093209	W146.6
1181A	A	0733	0911	X	X		X		X	X	X	X	1182	102557	E019.9	111932	W173.4
1182A	A	0915	1059	X	X		X		X	X	X	X	1183	121320	W006.9	130655	E159.7
1183A	A	1103	1243	X	X		X		X	X	X	X	1184	140043	W033.8	145419	E132.8
1184A	A	1247	1429	X	X		X		X	X	X	X	1185	154807	W060.6	164142	E106.0
1185A	A	1434	1612	X	X		X		X	X	X	X	1186	173530	W087.4	182905	E079.2
1186A	A	1616	1757	X	X		X		X	X	X	X	1187	192253	W114.3	201629	E052.3
1187A	A	1801	1941	X	X		X		X	X	X	X	1188	211017	W141.1	220352	E025.5
1188A	A	1945	2127	X	X		X		X	X	X	X	1189	225740	W168.0	235115	W001.4
1189A	A	2131	2313	X	X		X		X	X	X	X					
11900	B	2313	0015				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
9 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
11900	A	0016	0214				X		X	X	X	X	1190	004503	E165.2	013839	W028.2
1192R	A	0221	0407	X	X		X		X	X	X	X	1191	023227	E138.3	032602	W055.1
1192R	B	0406	0459	X	X		X		X	X	X	X	1192	041950	E111.5	051326	W081.9
1193R	A	0504	0647	X	X		X		X	X	X	X	1193	060713	E084.6	070049	W108.8
1194A	A	0651	0830	X	X		X		X	X	X	X	1194	075437	E057.8	084812	W135.6
1195A	A	0834	1013	X	X		X		X	X	X	X	1195	094200	E031.0	103536	W162.5
1196A	A	1017	1200	X	X		X		X	X	X	X	1196	112923	E004.1	122259	E170.7
1197A	A	1204	1346	X	X		X		X	X	X	X	1197	131647	W022.8	141022	E143.9
1198A	A	1350	1529	X	X		X		X	X	X	X	1198	150410	W049.6	155746	E117.0
1199A	A	1533	1715		X		X	X		X	X	X	1199	165133	W076.4	174509	E090.2
1200A	A	1719	1855		X		X	X		X	X	X	1200	183857	W103.3	193232	E063.3
1201A	A	1900	2043		X		X	X		X	X	X	1201	202620	W130.2	211956	E036.5
1202A	A	2047	2230		X		X	X		X	X	X	1202	221344	W157.0	230719	E009.6
12030	B	2228	2331				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
10 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
12030	A	2331	0129				X	X		X	X	X	1203	000107	E176.2	005443	W017.3
12040	A	0138	0318				X	X		X	X	X	1204	014830	E149.3	024206	W044.1
1205R	B	0318	0415		X		X	X		X	X	X	1205	033554	E122.5	042929	W070.9
1206R	A	0415	0603		X	X	X	X		X	X	X	1206	052317	E095.6	061653	W097.8
1207A	A	0607	0744		X		X	X		X	X	X	1207	071040	E068.8	080416	W124.7
1208A	A	0748	0930		X		X	X		X	X	X	1208	085804	E041.9	095140	W151.5
1209A	A	0934	1117		X		X	X		X	X	X	1209	104527	E015.1	113903	W178.3
1210A	A	1121	1302		X		X	X		X	X	X	1210	123251	W011.8	132626	E154.8
1211A	A	1306	1447		X		X	X		X	X	X	1211	142014	W038.6	151350	E128.0
1212A	A	1451	1632		X	X	X	X		X	X	X	1212	160737	W065.5	170113	E101.1
1213A	A	1636	1816		X		X	X		X	X	X	1213	175501	W092.3	184837	E074.3
1214A	A	1820	2000		X		X	X		X	X	X	1214	194224	W119.2	203600	E047.4
1215A	A	2004	2146		X		X	X		X	X	X	1215	212948	W146.0	222323	E020.6
1216A	A	2150	2334		X		X	X		X	X	X	1216	231711	W172.9	001047	W006.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
11 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
12160	B	2333	0036				X	X		X	X	X	1217	010434	E160.3	015810	W033.1
12170	A	0036	0234				X	X		X	X	X	1218	025158	E133.4	034534	W060.0
1219R	A	0243	0427		X		X	X		X	X	X	1219	043921	E106.6	053257	W086.8
1219R	B	0425	0517		X		X	X		X	X	X	1220	062645	E079.8	072021	W113.7
1220R	A	0522	0705		X		X	X		X	X	X	1221	081408	E052.9	090744	W140.5
1221A	A	0709	0846		X		X	X		X	X	X	1222	100132	E026.0	105507	W167.3
1222A	A	0850	1034		X		X	X		X	X	X	1223	114855	W000.8	124231	E165.8
1223A	A	1038	1219		X		X	X		X	X	X	1224	133618	W027.6	142954	E139.0
1224A	A	1223	1405		X		X	X		X	X	X	1225	152342	W055.0	161718	E112.1
1225A	A	1409	1547		X		X	X		X	X	X	1226	171105	W081.4	180441	E085.2
1226A	A	1552	1732	X	X		X		X	X	X	X	1227	185829	W108.2	195205	E058.4
1227A	A	1736	1918	X	X		X		X	X	X	X	1228	204552	W135.0	213928	E032.0
1228A	A	1922	2102	X	X		X		X	X	X	X	1229	223316	W161.9	232652	E004.7
1229A	A	2108	2249	X	X		X		X	X	X	X					
12300	B	2246	2350				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
12 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
12300	A	2350	0149				X		X	X	X	X	1230	002039	E171.3	011415	W022.2
12310	A	0158	0337				X		X	X	X	X	1231	020803	E144.4	030139	W049.0
1233R	B	0337	0434	X	X		X		X	X	X	X	1232	035526	E117.6	044902	W075.8
1233R	A	0433	0619	X	X		X		X	X	X	X	1233	054259	E090.7	063626	W102.7
1234A	A	0626	0802	X	X		X		X	X	X	X	1234	073013	E063.9	082349	W129.6
1235A	A	0806	0949	X	X		X		X	X	X	X	1235	091736	E037.0	101113	W156.4
1236A	A	0953	1135	X	X		X		X	X	X	X	1236	110500	E010.2	115836	E176.8
1237A	A	1139	1321	X	X		X		X	X	X	X	1237	125223	W016.7	134559	E149.9
1238A	A	1326	1507	X	X		X		X	X	X	X	1238	143947	W043.5	153323	E123.1
1239A	A	1511	1650	X	X		X		X	X	X	X	1239	162710	W070.4	172046	E096.2
1240A	A	1653	1831	X	X		X		X	X	X	X	1240	181434	W097.2	190810	E069.4
1241A	A	1835	2020	X	X		X		X	X	X	X	1241	200157	W124.1	205533	E042.6
1242A	A	2025	2206	X	X		X		X	X	X	X	1242	214921	W150.9	224257	E015.7
12430	B	2204	2307				X		X	X	X	X	1243	233644	W177.7	003020	W011.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
13 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T H D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
12440	A	0115	0254				X		X	X	X	X	1244	012408	E155.4	021744	W038.0
1246R	A	0301	0448	X	X		X		X	X	X	X	1245	031131	E128.5	040507	W064.8
1246R	B	0446	0535	X	X		X		X	X	X	X	1246	045855	E101.7	055231	W091.7
1247A	A	0541	0720	X	X		X		X	X	X	X	1247	064618	E074.9	073954	W118.6
1248A	A	0724	0906	X	X		X		X	X	X	X	1248	083342	E048.0	092718	W145.4
1249A	A	0910	1050	X	X		X		X	X	X	X	1249	102105	E021.2	111442	W172.3
1250A	A	1055	1239	X	X		X		X	X	X	X	1250	120829	W005.7	130205	E160.9
1251A	A	1243	1424	X	X		X		X	X	X	X	1251	135552	W032.5	144929	E134.1
1252A	A	1429	1606		X		X	X		X	X	X	1252	154316	W059.4	163652	E107.2
1253A	A	1611	1751		X		X	X		X	X	X	1253	173039	W086.2	182416	E080.4
1254A	A	1755	1937		X		X	X		X	X	X	1254	191803	W113.1	201139	E053.5
1255A	A	1941	2121		X		X	X		X	X	X	1255	210526	W140.0	215903	E026.7
1256A	A	2126	2309		X		X	X		X	X	X	1256	225250	W166.8	234626	W000.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
14 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T H D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
1259R	A	0224	0401		X		X	X		X	X	X	1257	004027	E166.3	013403	W027.1
1259R	B	0359	0454		X		X	X		X	X	X	1258	022751	E139.5	032127	W055.9
1260R	A	0459	0639		X		X	X		X	X	X	1259	041514	E112.6	050851	W080.8
1261A	A	0644	0821		X		X	X		X	X	X	1260	060238	E085.8	065614	W107.6
1262A	A	0825	1008		X		X	X		X	X	X	1261	075002	E058.9	084338	W134.5
1263A	A	1012	1154		X		X	X		X	X	X	1262	093725	E032.1	103102	W161.3
1264A	A	1158	1341		X		X	X		X	X	X	1263	112449	E005.2	121825	E171.8
1265A	A	1346	1524		X		X	X		X	X	X	1264	131212	W021.6	140549	E145.0
1266A	A	1528	1709		X		X	X		X	X	X	1265	145936	W048.5	155312	E118.1
1267A	A	1713	1854		X		X	X		X	X	X	1266	164700	W075.3	174036	E091.3
1268A	A	1858	2038		X		X	X		X	X	X	1267	183423	W102.2	192800	E064.4
1269A	A	2042	2224		X		X	X		X	X	X	1268	202147	W129.0	211523	E037.6
12700	B	2224	2327				X	X		X	X	X	1269	220911	W155.9	230247	E010.7
													1270	235634	E177.3	005011	W016.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
15 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
12700	A	2327	0125				X	X		X	X	X	1271	014358	E150.4	023734	W043.0
12710	A	0133	0302				X	X		X	X	X	1272	033122	E123.6	042458	W069.8
1272R	B	0313	0410		X		X	X		X	X	X	1273	051845	E096.7	061222	W096.7
1273R	A	0411	0557		X		X	X		X	X	X	1274	070609	E069.9	075945	W123.5
1274A	A	0602	0739		X		X	X		X	X	X	1275	085332	E043.1	094709	W150.4
1275A	A	0744	0924		X		X	X		X	X	X	1276	104056	E016.2	113433	W177.2
1276A	A	0928	1110		X		X	X		X	X	X	1277	122820	W010.7	132156	E155.9
1277A	A	1114	1256		X		X	X		X	X	X	1278	141543	W037.5	150950	E129.1
1278A	A	1300	1443	X	X		X		X	X	X	X	1279	160307	W064.3	165644	E102.3
1279A	A	1447	1626	X	X		X		X	X	X	X	1280	175031	W091.2	184407	E075.4
1280A	A	1630	1810	X	X		X		X	X	X	X	1281	193754	W118.0	203131	E048.5
1281A	A	1814	1954	X	X		X		X	X	X	X	1282	212518	W144.9	221855	E021.7
1282A	A	1958	2142	X	X		X		X	X	X	X	1283	231242	W171.8	000618	W005.1
1283A	A	2146	2331	X	X		X		X	X	X	X					
12830	B	2328	0026				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
16 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
12840	A	0031	0229				X		X	X	X	X	1284	010006	E161.4	015342	W032.0
1286R	A	0237	0419	X	X		X		X	X	X	X	1285	024729	E134.6	034106	W058.99
1286R	B	0419	0511	X	X		X		X	X	X	X	1286	043453	E107.7	052829	W085.7
1287R	A	0517	0701	X	X		X		X	X	X	X	1287	062217	E080.9	071553	W112.6
1288A	A	0705	0842	X	X		X		X	X	X	X	1288	080940	E054.0	090317	W139.4
1289A	A	0845	1023	X	X		X		X	X	X	X	1289	095704	E027.2	105041	W166.2
1290A	A	1029	1214	X	X		X		X	X	X	X	1290	114428	E000.5	123804	E166.9
1291A	A	1217	1400	X	X		X		X	X	X	X	1291	133151	W026.5	142528	E140.1
1292A	A	1405	1541	X	X		X		X	X	X	X	1292	151915	W053.4	161252	E113.2
1293A	A	1545	1727	X	X		X		X	X	X	X	1293	170639	W080.2	180015	E086.4
1294A	A	1731	1912	X	X		X		X	X	X	X	1294	185402	W107.1	194739	E059.5
1295A	A	1922	2059	X	X		X		X	X	X	X	1295	204126	W133.9	213503	E032.7
1296A	A	2103	2246	X	X		X		X	X	X	X	1296	222850	W160.8	232227	E005.8
12970	B	2243	2346				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
17 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
12970	A	2346	0144				X		X	X	X	X	1297	001614	E172.4	010950	W021.0
12980	A	0154	0333				X		X	X	X	X	1298	020337	E145.5	025714	W047.9
1299R	B	0333	0430	X	X		X		X	X	X	X	1299	035101	E118.7	044438	W074.7
1300R	A	0430	0617	X	X		X		X	X	X	X	1300	053825	E091.8	063202	W101.6
1301A	A	0621	0758	X	X		X		X	X	X	X	1301	072549	E065.0	081925	W128.4
1302A	A	0802	0944	X	X		X		X	X	X	X	1302	091312	E038.1	0 649	6 55=3
1303A	A	0949	1129	X	X		X		X	X	X	X	1303	110036	E011.3	115413	W177.9
1304A	A	1133	1317	X	X		X		X	X	X	X	1304	124800	W015.6	134137	E151.0
1305A	A	1321	1501	X	X		X		X	X	X	X	1305	143524	W042.4	152900	E124.2
1306A	A	1505	1645	X	X		X		X	X	X	X	1306	162247	W069.3	171624	E097.3
1307A	A	1649	1828	X	X		X		X	X	X	X	1307	181011	W096.1	190348	E070.5
1308A	A	1833	2016	X	X		X		X	X	X	X	1308	195735	W123.0	205112	E043.6
1309A	A	2021	2204	X	X		X		X	X	X	X	1309	214459	W149.8	223835	E016.8
13100	A	2200	2303				X		X	X	X	X	1310	233222	W176.7	002559	W010.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
18 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
13100	B	2303	0101				X		X	X	X	X	1311	011946	E156.5	021323	W036.9
13110	A	0112	0250				X		X	X	X	X	1312	030710	E129.6	040047	W063.8
1313R	A	0244	0441	X	X		X		X	X	X	X	1313	045434	E102.8	054811	W090.6
1313R	B	0440	0535	X	X		X		X	X	X	X	1314	064157	E075.9	073534	W117.5
1314A	A	0536	0720	X	X		X		X	X	X	X	1315	082921	E049.1	092258	W114.3
1315A	A	0725	0904	X	X		X		X	X	X	X	1316	101645	E022.3	111022	W171.2
1316A	A	0909	1048	X	X		X		X	X	X	X	1317	120409	W004.6	125746	E162.0
1317A	A	1052	1234	X	X		X		X	X	X	X	1318	135132	W031.5	144509	E135.1
1318A	A	1238	1419	X	X		X		X	X	X	X	1319	153856	W058.3	163233	E108.3
1319A	A	1423	1603	X	X		X		X	X	X	X	1320	172620	W085.2	181957	E081.4
1320A	A	1607	1748	X	X		X		X	X	X	X	1321	191344	W112.0	200721	E054.6
1321A	A	1752	1934	X	X		X		X	X	X	X	1322	210108	W138.9	215445	E027.8
1322A	A	1938	2122	X	X		X		X	X	X	X	1323	224831	W165.7	234209	E000.9
1323A	A	2126	2306	X	X		X		X	X	X	X					
13240	B	2304	0007				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
19 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
13240	A	0007	0205				X		X	X	X	X	1324	003555	E167.5	012952	W026.0
1326R	A	0213	0358	X	X		X		X	X	X	X	1325	022319	E140.6	031656	W052.8
1326R	B	0356	0453	X	X		X		X	X	X	X	1326	041043	E113.8	050420	W079.8
1327R	A	0454	0634	X	X		X		X	X	X	X	1327	055807	E086.9	065144	W106.5
1328A	A	0641	0819	X	X		X		X	X	X	X	1328	074531	E060.0	083908	W133.4
1329A	A	0823	1005	X	X		X		X	X	X	X	1329	093254	E033.2	102631	W160.2
1330A	A	1009	1148	X	X		X		X	X	X	X	1330	112018	E006.4	121355	E173.0
1331A	A	1152	1334	X	X		X		X	X	X	X	1331	130742	W020.5	140119	E146.1
1333A	A	1525	1705	X	X	X	X			X	X	X	1332	145506	W047.4	154843	E119.2
1334A	A	1709	1847	X	X	X	X			X	X	X	1333	164230	W074.2	173607	E092.4
1335A	A	1910	2041	X	X	X	X		X	X	X	X	1334	182953	W101.1	192331	E065.5
1336A	A	2045	2223	X	X		X		X	X	X	X	1335	201717	W127.9	211055	E038.7
13370	B	2219	2322				X		X	X	X	X	1336	220441	W154.7	225818	E011.9
													1337	235205	E178.4	004542	W015.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
20 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
13370	A	2322	0121				X		X	X	X	X	1338	013930	E151.6	023306	W041.9
13380	A	0129	0309				X		X	X	X	X	1339	032653	E124.7	042030	W068.7
1339R	B	0309	0410	X	X		X		X	X	X	X	1340	051417	E097.9	060754	W095.6
1340R	A	0407	0552	X	X		X		X	X	X	X	1341	070140	E071.0	075518	W122.4
1341A	A	0557	0735	X	X		X		X	X	X	X	1342	084904	E044.2	094242	W149.3
1342A	A	0739	0922	X	X		X		X	X	X	X	1343	103628	E017.3	113005	W176.1
1343A	A	0927	1107	X	X		X		X	X	X	X	1344	122352	W009.5	131730	E157.1
1344A	A	1111	1253	X	X		X		X	X	X	X	1345	141116	W036.4	150453	E130.2
1345A	A	1258	1438	X	X		X		X	X	X	X	1346	155840	W063.2	165217	E103.4
1346A	A	1442	1621	X	X		X		X	X	X	X	1347	174604	W090.1	183941	E076.5
1347A	A	1625	1805	X	X		X		X	X	X	X	1348	193327	W117.0	202705	E049.6
1348A	A	1809	1950	X	X		X		X	X	X	X	1349	212051	W143.8	221429	E022.8
1349A	A	1955	2140	X	X		X		X	X	X	X	1350	230815	W170.7	000153	W004.1
1350A	A	2144	2325	X	X		X		X	X	X	X					
13500	B	2323	0026				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
21 SEPTEMBER 1975

INT RBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR I R	TH I R	TD R E	SC A M	SM R	ER B	EP R	TM R	TW R L	HR I S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
13510	A	0026	0224				X		X	X	X	X	X	1351	005543	E162.5	014921	W030.9
1353R	A	0233	0417	X	X		X		X	X	X	X	X	1352	024307	E135.7	033645	W057.8
1353R	B	0415	0515	X	X		X		X	X	X	X	X	1353	043031	E108.8	052408	W084.6
1354R	A	0514	0657	X	X		X		X	X	X	X	X	1354	061755	E081.9	071132	W111.5
1355A	A	0701	0836	X	X		X		X	X	X	X	X	1355	080519	E055.1	085856	W138.3
1356A	A	0840	1022	X	X		X		X	X	X	X	X	1356	095243	E028.2	104620	W165.2
1357A	A	1026	1207	X	X		X		X	X	X	X	X	1357	114007	E101.4	123344	E168.0
1358A	A	1212	1353	X	X		X		X	X	X	X	X	1358	132731	W025.5	142108	E141.1
1359A	A	1358	1538	X	X		X		X	X	X	X	X	1359	151455	W052.3	160832	E114.3
1360A	A	1542	1720	X	X		X		X	X	X	X	X	1360	170219	W079.1	175556	E087.5
1361A	A	1724	1904	X	X		X		X	X	X	X	X	1361	184943	W106.0	194320	E060.6
1362A	A	1908	2051	X	X		X		X	X	X	X	X	1362	203706	W132.9	213044	E033.8
1363A	A	2056	2240	X	X		X		X	X	X	X	X	1363	222430	W159.7	231808	E006.9
13640	A	2239	2342				X		X	X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
22 SEPTEMBER 1975

INT RBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR I R	TH I R	TD R E	SC A M	SM R	ER B	EP R	TM R	TW R L	HR I S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
13640	B	2342	0140				X		X	X	X	X	X	1364	001154	E173.4	010532	W020.0
13650	A	0148	0329				X		X	X	X	X	X	1365	015918	E146.6	025256	W046.8
1366R	B	0329	0429	X	X		X		X	X	X	X	X	1366	034642	E119.7	044020	W073.7
1367R	A	0426	0615	X	X		X		X	X	X	X	X	1367	053406	E092.9	062744	W100.5
1368A	A	0619	0754	X	X		X		X	X	X	X	X	1368	072130	E066.0	081508	W127.4
1369A	A	0758	0939	X	X		X		X	X	X	X	X	1369	090854	E039.2	100232	W154.2
1370A	A	0943	1126	X	X		X		X	X	X	X	X	1370	105618	E012.4	114956	E179.0
1371A	A	1130	1311	X	X		X		X	X	X	X	X	1371	124342	W014.5	133720	E152.1
1372A	A	1315	1457	X	X		X		X	X	X	X	X	1372	143106	W041.4	152444	E125.3
1373A	A	1502	1639	X	X		X		X	X	X	X	X	1373	161830	W068.2	171208	E098.4
1374A	A	1643	1829	X	X		X		X	X	X	X	X	1374	180554	W095.1	185932	E071.5
1375A	A	1833	2013	X	X		X		X	X	X	X	X	1375	195318	W121.9	204656	E044.7
1376A	A	2017	2156	X	X		X		X	X	X	X	X	1376	214042	W148.8	223420	E017.8
13770	B	2154	2258				X		X	X	X	X	X	1377	232806	W175.6	002144	W009.0
13770	A	2259	0045				X		X	X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
23 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
13780	A	0106	0245				X		X	X	X	X	1378	011530	E157.6	020908	W035.9
1380R	A	0253	0438	X	X		X		X	X	X	X	1379	030254	E130.7	035632	W062.7
1380R	B	0437	0531	X	X		X		X	X	X	X	1380	045018	E103.9	054356	W089.6
1381R	A	0535	0715	X	X		X		X	X	X	X	1381	063742	E077.0	073120	W116.4
1382A	A	0722	0856	X	X		X		X	X	X	X	1382	082506	E050.1	091844	W143.3
1383A	A	0900	1047	X	X		X		X	X	X	X	1383	101230	E023.3	110608	W170.1
1384A	A	1052	1231	X	X		X		X	X	X	X	1384	115954	W003.6	125332	E163.0
1385A	A	1235	1417	X	X		X		X	X	X	X	1385	134718	W030.4	144056	E136.2
1386A	A	1421	1558	X	X		X		X	X	X	X	1386	153442	W057.3	162820	E109.3
1387A	A	1602	1742	X	X		X		X	X	X	X	1387	172206	W084.1	181544	E082.5
1388A	A	1746	1932	X	X		X		X	X	X	X	1388	190930	W111.0	200308	E055.6
1389A	A	1936	2113	X	X		X		X	X	X	X	1389	205654	W137.8	215032	E028.8
1390A	A	2117	2303	X	X		X		X	X	X	X	1390	224418	W164.7	233756	E002.0
13910	B	2300	0003				X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
24 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
13910	A	0003	0157				X		X	X	X	X	1391	003142	E168.5	012520	W024.9
1393R	B	0207	0350	X	X		X		X	X	X	X	1392	021906	E141.7	031244	W051.8
1394R	A	0349	0449	X	X		X		X	X	X	X	1393	040630	E114.8	050008	W078.6
1394R	B	0446	0633	X	X		X		X	X	X	X	1394	055354	E087.9	064732	W105.5
1395A	A	0638	0814	X	X		X		X	X	X	X	1395	074118	E061.1	083456	W132.3
1396A	A	0818	0959	X	X		X		X	X	X	X	1396	092842	E034.2	102220	W159.2
1397A	A	1003	1145	X	X		X		X	X	X	X	1397	111606	E007.4	120944	E174.0
1398A	A	1150	1332	X	X		X		X	X	X	X	1398	130330	W019.5	135708	E147.1
1399A	A	1336	1516	X	X		X		X	X	X	X	1399	145055	W046.3	154432	E120.3
1400A	A	1521	1701	X	X		X		X	X	X	X	1400	163819	W073.1	173157	E093.4
1401A	A	1705	1845	X	X		X		X	X	X	X	1401	182543	W100.0	191921	E066.6
1402A	A	1849	2030	X	X		X		X	X	X	X	1402	201307	W126.9	210645	E039.8
1403A	A	2035	2215	X	X		X		X	X	X		1403	220031	W153.7	225409	E012.9
1404A	A	2219	0006	X	X		X		X	X	X		1404	234755	E179.4	004133	W014.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
25 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H R R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
1406R	A	0105	0303	X	X		X		X	X	X		1405	013519	E152.6	022857	W040.8
1407R	A	0304	0407	X	X		X		X	X	X		1406	032243	E125.7	041621	W067.7
1407R	B	0409	0549	X	X		X		X	X	X		1407	051007	E098.9	060345	W094.5
1408A	A	0553	0730	X	X		X		X	X	X		1408	065731	E072.0	075109	W121.4
1409A	A	0734	0919	X	X		X		X	X	X		1409	084455	E045.2	093853	W148.2
1410A	A	0924	1102	X	X		X		X	X	X		1410	103219	E018.3	112557	W175.1
1411A	A	1106	1242	X	X		X		X	X	X		1411	121943	W008.5	131322	E158.1
1412A	A	1259	1423	X	X		X		X	X	X		1412	140708	W035.4	150046	E131.2
1413A	A	1439	1619	X	X		X		X	X	X		1413	155432	W062.2	164810	E104.4
1414A	A	1623	1802	X	X		X		X	X	X		1414	174156	W089.1	183534	E077.5
1415A	A	1806	1951	X	X		X		X	X	X	X	1415	192920	W115.9	202258	E050.7
1416A	A	1956	2134	X	X		X		X	X	X	X	1416	211644	W142.8	221022	E023.8
1417A	A	2138	2324	X	X		X		X	X	X	X	1417	230408	W169.6	235746	W003.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
26 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H R R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
1420R	A	0206	0405	X	X		X		X	X	X	X	1418	005132	E163.5	014510	W029.9
1420R	B	0405	0509	X	X		X		X	X	X	X	1419	023856	E136.7	033235	W056.7
1421R	A	0511	0652	X	X		X		X	X	X	X	1420	042621	E109.8	051959	W083.6
1422A	A	0657	0833	X	X		X		X	X	X	X	1421	061345	E083.0	070723	W110.5
1423A	A	0837	1019	X	X		X		X	X	X	X	1422	080109	E056.1	085447	W137.3
1424A	A	1023	1205	X	X		X		X	X	X	X	1423	094833	E029.3	104211	W164.1
1425A	A	1209	1351	X	X		X		X	X	X	X	1424	113557	E002.4	122935	E169.0
1426A	A	1356	1540	X	X		X		X	X	X	X	1425	132321	W024.4	141659	E142.2
1427A	A	1544	1721		X		X	X		X	X	X	1426	151045	W051.3	160424	E115.3
1428A	A	1725	1903		X		X	X		X	X	X	1427	165809	W078.1	175148	E088.5
1429A	A	1907	2049		X		X	X		X	X	X	1428	184534	W105.0	193912	E061.6
1430A	A	2053	2237		X		X	X		X	X	X	1429	203258	W131.8	212636	E034.8
14310	B	2235	2338				X	X		X	X	X	1430	222022	W158.7	231400	E007.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
27 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	I H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
14310	A	0042	0136				X	X		X	X	X	1431	000746	E174.5	010124	W018.9
14320	A	0145	0325				X	X		X	X	X	1432	015510	E147.6	024849	W045.8
1433R	B	0325	0423		X		X	X		X	X	X	1433	034234	E120.8	043613	W072.7
1434R	A	0426	0608		X		X	X		X	X	X	1434	052959	E093.9	062337	W099.5
1435A	A	0613	0749		X		X	X		X	X	X	1435	071723	E067.1	081101	W126.4
1436A	A	0753	0937		X		X	X		X	X	X	1436	090447	E040.2	095825	W153.2
1437A	A	0941	1122		X		X	X		X	X	X	1437	105211	E013.4	114550	E179.9
1438A	A	1128	1308		X		X	X		X	X	X	1438	123935	W013.5	133314	E153.1
1439A	A	1313	1453		X		X	X		X	X	X	1439	142659	W040.3	152038	E126.2
1440A	A	1457	1637		X		X	X		X	X	X	1440	161424	W067.2	170802	E099.4
1441A	A	1641	1824		X		X	X		X	X	X	1441	180148	W094.0	185526	E072.5
1442A	A	1828	2009		X		X	X		X	X	X	1442	194912	W120.9	204251	E045.7
1443A	A	2014	2153		X		X	X		X	X	X	1443	213636	W147.7	223015	E018.9
1444A	A	2158	2341		X		X	X		X	X	X	1444	232400	W174.6	001739	W008.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
28 SEPTEMBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
14440	B	2346	0057				X	X		X	X		1445	011122	E158.6	020500	W034.9
14450	A	0101	0241				X	X		X	X		1446	025846	E131.7	035225	W061.7
1447R	A	0247	0431		X		X	X		X	X		1447	044610	E104.9	053949	W088.6
1447R	B	0430	0529		X		X	X		X	X		1448	063335	E078.0	072713	W115.4
1448A	A	0529	0707		X		X	X		X	X		1449	082059	E051.2	091437	W142.2
1449A	A	0711	0851		X		X	X		X	X		1450	100823	E024.3	110202	W169.1
1450A	A	0855	1039		X		X	X		X	X		1451	115547	W002.5	124926	E164.1
1451A	A	1043	1224		X		X	X		X	X		1452	134311	W029.4	143650	E137.2
1452A	A	1228	1412		X		X	X		X	X		1453	153036	W056.2	162414	E110.4
1453A	A	1416	1557		X		X	X	X	X	X		1454	171800	W083.1	181138	E083.5
1454A	A	1602	1738	X	X		X		X	X	X		1455	190524	W110.0	195903	E056.7
1455A	A	1742	1923	X	X		X		X	X	X		1456	205248	W136.8	214627	E029.8
1456A	A	1928	2109	X	X		X		X	X	X		1457	224013	W163.7	233351	E003.0
1457A	A	2113	2257	X	X		X		X	X	X						
14580	B	2255	2358				X		X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
29 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
14580	A	2358	0156				X		X	X	X		1458	002737	E169.5	012115	W023.9
14590	A	0203	0344				X		X	X	X		1459	021501	E142.6	030840	W050.8
1460R	B	0345	0442	X	X		X		X	X	X		1460	040225	E115.8	045604	W077.6
1461R	A	0442	0629	X	X		X		X	X	X		1461	054950	E088.9	064328	W104.5
1462A	A	0633	0810	X	X		X		X	X	X		1462	073714	E062.1	083052	W131.3
1463A	A	0814	0958	X	X		X		X	X	X		1463	092438	E035.2	101817	W158.2
1464A	A	1012	1145	X	X		X		X	X	X		1464	111202	E008.4	120541	E175.0
1465A	A	1149	1327	X	X		X		X	X	X		1465	125927	W018.5	135305	E148.1
1466A	A	1331	1514	X	X		X		X	X	X		1466	144651	W045.3	154030	E121.3
1467A	A	1519	1657	X	X		X		X	X	X		1467	163415	W072.2	172754	E094.4
1468A	A	1701	1841	X	X		X		X	X	X		1468	182139	W099.0	191518	E067.6
1469A	A	1845	2025	X	X		X		X	X	X		1469	200904	W125.9	210242	E040.7
1470A	A	2029	2212	X	X		X		X	X	X		1470	215628	W152.7	225007	E013.9
14710	B	2211	2314				X		X	X	X		1471	234352	W179.6	003731	W013.0

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
30 SEPTEMBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
14710	A	2314	0111				X		X	X	X		1472	013116	E153.6	022455	W039.8
14720	A	0121	0300				X		X	X	X		1473	031841	E126.8	041220	W066.7
1473R	B	0301	0400	X	X		X		X	X	X		1474	050605	E099.9	055944	W093.5
1474R	A	0400	0546	X	X		X		X	X	X		1475	065329	E073.0	074708	W120.4
1475A	A	0553	0727	X	X		X		X	X	X		1476	084054	E046.2	093432	W147.2
1476A	A	0731	0913	X	X		X		X	X	X		1477	102818	E019.3	112157	W174.1
1477A	A	0917	1100	X	X		X		X	X	X		1478	121542	W007.5	130921	E159.1
1478A	A	1104	1245	X	X		X		X	X	X		1479	140306	W034.4	145645	E132.2
1479A	A	1249	1431	X	X		X		X	X	X		1480	155031	W061.2	164410	E105.4
1480A	A	1435	1614		X		X	X	X	X	X		1481	173755	W088.1	183134	E078.5
1481A	A	1618	1758		X		X	X	X	X	X		1482	192519	W114.9	201858	E051.7
1482A	A	1802	1943		X		X	X	X	X	X		1483	211244	W141.8	220623	E024.8
1483A	A	1947	2130		X		X	X	X	X	X		1484	230008	W168.6	235347	W002.1
1484A	A	2134	2317		X		X	X	X	X	X						
14840	B	2315	0018				X	X	X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
1 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T H D E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
14850	A	0018	0216				X	X		X	X		1485	004732	E164.5	014111	W028.9
1487R	A	0225	0408		X		X	X		X	X		1486	023457	E137.7	032836	W055.7
1487R	B	0407	0505		X		X	X		X	X		1487	042221	E110.8	051600	W082.6
1488R	A	0505	0649		X		X	X		X	X		1488	060945	E084.0	070324	W109.4
1489A	A	0653	0830		X		X	X		X	X		1489	075710	E057.1	085049	W136.3
1490A	A	0834	1015		X		X	X		X	X		1490	094434	E030.2	103813	W165.2
1491A	A	1020	1201		X		X	X		X	X		1491	113158	E003.4	122537	E170.0
1492A	A	1206	1347		X		X	X		X	X		1492	131923	W023.5	141302	E143.2
1493A	A	1351	1531		X		X	X		X	X		1493	150647	W050.3	160026	E116.3
1494A	A	1536	1716		X		X	X		X	X		1494	165411	W077.2	174750	E089.4
1495A	A	1721	1901		X		X	X		X	X		1495	184136	W104.0	193515	E062.6
1496A	A	1905	2047		X		X	X		X	X		1496	202900	W130.9	212239	E035.7
1497A	A	2051	2233		X		X	X		X	X		1497	221624	W157.7	231004	E008.9
14980	B	2231	2334				X	X		X	X						
14980	A	2334	0132				X	X		X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
2 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T H D E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
14990	A	0141	0321				X	X		X	X		1498	000549	E175.4	005728	W018.0
1500R	B	0321	0421		X		X	X		X	X		1499	015113	E148.6	024452	W044.8
1501R	A	0447	0607		X		X	X		X	X		1500	033838	E121.7	043217	W071.7
1502A	A	0611	0746		X		X	X		X	X		1501	052602	E094.9	061941	W098.5
1503A	A	0749	0933		X		X	X		X	X		1502	071326	E068.0	080705	W125.4
1504A	A	0937	1118		X		X	X		X	X		1503	090051	E041.2	095430	W152.2
1505A	A	1122	1305		X		X	X		X	X		1504	104815	E014.3	114154	W179.1
1506A	A	1309	1449		X		X	X		X	X		1505	123539	W012.5	132919	E154.1
1507A	A	1453	1634	X	X		X		X	X	X		1506	142304	W039.4	151643	E127.2
1508A	A	1638	1817	X	X		X		X	X	X		1507	161028	W066.2	170407	E100.4
1510A	A	1846	2047	X	X		X		X	X	X		1508	175753	W093.1	185132	E073.5
1510A	B	2047	2151	X	X		X		X	X	X		1509	194517	W119.9	203856	E046.7
1511A	A	2153	2337	X	X		X		X	X	X		1510	213241	W146.8	222621	E019.8
													1511	232006	W173.6	001345	W007.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
3 OCTOBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
15120	B	2335	0059				X		X	X	X		1512	010730	E159.5	020109	W033.9
15120	A	0039	0238				X		X	X	X		1513	025455	E132.7	034834	W060.8
1514R	A	0245	0429	X	X		X		X	X	X		1514	044219	E105.8	053558	W087.6
1514R	B	0427	0525	X	X		X		X	X	X		1515	062943	E079.0	072323	W114.5
1515R	A	0526	0710	X	X		X		X	X	X		1516	081708	E052.1	091047	W141.3
1516A	A	0714	0850	X	X		X		X	X	X		1517	100432	E025.3	105812	W168.2
1517A	A	0854	1036	X	X		X		X	X	X		1518	115157	W001.6	124536	E165.0
1518A	A	1041	1222	X	X		X		X	X	X		1519	133921	W028.4	143300	E138.1
1519A	A	1226	1407	X	X		X		X	X	X		1520	152646	W055.3	162025	E111.3
1520A	A	1411	1551	X	X		X		X	X	X		1521	171410	W082.1	180749	E084.4
1521A	A	1555	1735	X	X		X		X	X	X		1522	190134	W109.0	195514	E057.6
1522A	A	1739	1922	X	X		X		X	X	X		1523	204859	W135.8	214238	E030.7
1523A	A	1926	2109	X	X		X		X	X	X		1524	223623	W162.7	233003	E003.9
1524A	A	2114	2252	X	X		X		X	X	X						
15250	B	2251	2353				X		X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
4 OCTOBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
15250	A	2354	0152				X		X	X	X		1525	002348	E170.5	011727	W023.0
15260	A	0201	0340				X		X	X	X		1526	021112	E143.6	030452	W049.8
1527R	B	0341	0459	X	X		X		X	X	X		1527	035837	E116.8	045216	W076.7
1528R	A	0439	0626	X	X		X		X	X	X		1528	054601	E089.9	063941	W103.5
1529A	A	0630	0806	X	X		X		X	X	X		1529	073326	E063.1	082705	W130.4
1530A	A	0810	0943	X	X		X		X	X	X		1530	092050	E036.2	101429	W157.2
1531A	A	0958	1139	X	X		X		X	X	X		1531	110814	E009.4	120154	E175.9
1532A	A	1145	1323	X	X		X		X	X	X		1532	125539	W017.5	134918	E149.1
1533A	A	1327	1512	X	X		X		X	X	X		1533	144303	W044.4	153643	E122.2
1534A	A	1516	1652		X		X	X		X	X		1534	163028	W071.2	172407	E095.4
1535A	A	1656	1835		X		X	X		X	X		1535	181752	W098.1	191132	E068.5
1536A	A	1839	2021		X		X	X		X	X		1536	200517	W124.9	205856	E041.6
1537A	A	2025	2209		X		X	X		X	X		1537	215241	W151.8	224621	E014.8
15380	B	2207	2310				X	X		X	X		1538	234006	W178.6	003345	W012.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
5 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L-R I R	T H I I R	I D R E	S C A M	S M R	E S E R	E P M B	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
15380	A	2310	0108				X	X		X	X		1539	012730	E154.5	022110	W038.9
15390	A	0117	0258				X	X		X	X		1540	031455	E127.7	040834	W065.8
1540R	B	0258	0356		X		X	X		X	X		1541	050219	E100.8	055559	W092.6
1541R	A	0356	0545		X		X	X		X	X		1542	064944	E074.0	074323	W119.5
1542R	A	0550	0727		X		X	X		X	X		1543	083708	E047.1	093048	W146.3
1543A	A	0731	0909		X		X	X		X	X		1544	102433	E020.3	111812	W173.2
1544A	A	0913	1055		X		X	X		X	X		1545	121157	W006.6	130537	E160.0
1545A	A	1059	1242		X		X	X		X	X		1546	135922	W033.4	145301	E133.1
1546A	A	1247	1427		X		X	X		X	X		1547	154646	W060.3	164026	E106.3
1547A	A	1431	1610		X		X	X		X	X		1548	173411	W087.1	182751	E079.4
1548A	A	1614	1753		X		X	X		X	X		1549	192135	W114.0	201515	E052.6
1549A	A	1757	1938		X		X	X		X	X		1550	210900	W140.8	220240	E025.7
1550A	A	1942	2125		X		X	X		X	X		1551	225624	W167.7	235004	W001.1
1551A	A	2129	2312		X		X	X		X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
6 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	I H I I R	I D R E	S C A M	S M R	E S E R	E P M B	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
15520	A	0014	0212				X	X		X	X		1552	004349	E165.4	013729	W028.0
1556A	A	0341	0539		X		X	X		X	X		1553	023113	E138.6	032453	W054.8
1556A	B	0722	0827		X		X	X		X	X		1554	041838	E111.7	051218	W081.7
1557A	A	0829	1012		X		X	X		X	X		1555	060603	E084.9	065942	W108.5
1558A	A	1016	1155		X		X	X		X	X		1556	075327	E058.0	084707	W135.4
1559A	A	1159	1346		X		X	X		X	X	X	1557	094052	E031.2	103431	W162.2
1560A	A	1351	1530	X	X		X	X	X	X	X	X	1558	112816	E004.4	122156	E170.9
1561A	A	1534	1711	X	X		X		X	X	X	X	1559	131541	W022.5	140921	E144.1
1563A	A	1743	1942	X	X		X		X	X	X	X	1560	150305	W049.4	155645	E117.2
1563A	B	1941	2048	X	X		X		X	X	X	X	1561	165030	W076.2	174410	E090.4
*1564A	A	2213	2228				X		X	X	X	X	1562	183 54	W103C1	193154	E063.5
15650	B	2227	2330				X		X	X	X	X	1563	202519	W130.0	211859	E036.7
*LRIR + THIR ON FROM 2047 TO 2228													1564	221244	W156.8	230623	E009.8

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
7 OCTOBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B R	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
15650	A	2330	0128				X		X	X	X	X	1565	000008	E176.4	005348	W017.0
15660	A	0138	0317				X		X	X	X	X	1566	014733	E149.5	024113	W043.9
1567R	B	0317	0417	X	X		X		X	X	X	X	1567	033457	E122.7	042837	W070.8
1568R	A	0415	0602	X	X		X		X	X	X	X	1568	052212	E095.8	061552	W097.6
1569A	A	0606	0742	X	X		X		X	X	X	X	1569	070937	E069.0	080316	W124.5
1570A	A	0746	0930	X	X		X		X	X	X	X	1570	085701	E042.1	095041	W151.3
1571A	A	0934	1115	X	X		X		X	X	X	X	1571	104426	E015.3	113806	W178.2
1572A	A	1119	1301	X	X		X		X	X	X	X	1572	123150	W011.6	132530	E155.0
1573A	A	1306	1445	X	X		X		X	X	X	X	1573	141915	W038.5	151255	E128.1
1574A	A	1449	1629	X	X		X		X	X	X	X	1574	160639	W065.3	170019	E101.3
1575A	A	1633	1814	X	X		X		X	X	X	X	1575	175404	W092.2	184744	E074.4
1576A	A	1818	1957	X	X		X		X	X	X	X	1576	194128	W119.0	203508	E047.6
1577A	A	2001	2146	X	X		X		X	X	X	X	1577	212853	W145.9	222253	E020.7
1578A	A	2332	0035	X	X		X		X	X	X	X	1578	231618	W172.7	000957	W006.1

LRIR + THIR ON FROM 2149 TO 2335

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
8 OCTOBER 1975

INT RBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B R	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
15790	A	0035	0233				X		X	X	X	X	1579	010342	E160.4	015722	W033.0
1581R	A	0243	0426	X	X		X		X	X	X	X	1580	025107	E133.6	034447	W059.8
1581R	B	0425	0522	X	X		X		X	X	X	X	1581	043831	E106.7	053211	W086.7
1582R	A	0522	0706	X	X		X		X	X	X	X	1582	062556	E079.9	071936	W113.5
1583A	A	0710	0845	X	X		X		X	X	X	X	1583	081320	E053.0	090700	W140.4
1584A	A	0849	1032	X	X		X		X	X	X	X	1584	100045	E026.2	105425	W167.3
1585A	A	1036	1217	X	X		X		X	X	X	X	1585	114810	W000.7	124150	E165.9
1586A	A	1221	1404	X	X		X		X	X	X	X	1586	133534	W027.5	142914	E139.1
1587A	A	1408	1550	X	X		X		X	X	X	X	1587	152259	W054.4	161639	E112.2
1588A	A	1554	1730	X	X		X		X	X	X	X	1588	171023	W081.2	180403	E085.3
1589A	A	1735	1916	X	X		X		X	X	X	X	1589	185748	W108.1	195128	E058.5
1590A	A	1920	2102	X	X		X		X	X	X	X	1590	204513	W134.9	213853	E031.6
1591A	A	2106	2249	X	X		X		X	X	X	X	1591	223237	W161.8	232617	E004.8

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
9 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
15920	A	2353	0145				X		X	X	X	X	1592	002002	E171.4	011342	W022.1
1594R	A	0157	0338	X	X		X		X	X	X	X	1593	020726	E144.5	030106	W048.9
1594R	B	0337	0457	X	X		X		X	X	X	X	1594	035451	E117.6	044831	W075.8
1595R	A	0440	0622	X	X		X		X	X	X	X	1595	054216	E090.8	063556	W102.6
1596A	A	0626	0803	X	X		X		X	X	X	X	1596	072940	E063.9	082320	W129.5
1597A	A	0807	0949	X	X		X		X	X	X	X	1597	091705	E037.1	101045	W156.3
1598A	A	0953	1137	X	X		X		X	X	X	X	1598	110429	E010.2	115810	E176.8
1599A	A	1141	1322	X	X		X		X	X	X	X	1599	125154	W016.6	134534	E150.0
1600A	A	1326	1508	X	X		X		X	X	X	X	1600	143919	W043.5	153259	E123.1
1601A	A	1512	1649	X	X		X		X	X	X	X	1601	162643	W070.3	172024	E096.3
1602A	A	1653	1834	X	X		X		X	X	X	X	1602	181408	W097.2	190748	E069.4
1604A	A	1838	2025	X	X		X		X	X	X	X	1603	200133	W124.0	205513	E042.6
16060	A	2202	2306				X		X	X	X	X	1604	214857	W150.9	224238	E015.7
16050	A	2306	0102				X		X	X	X	X	1605	233622	W177.7	003002	W011.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
10 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
1608R	A	0300	0446	X	X		X		X	X	X	X	1606	012347	E155.4	021727	W038.0
1608R	B	0445	0541	X	X		X		X	X	X	X	1607	031111	E128.6	040451	W064.9
1609R	A	0541	0724	X	X		X		X	X	X	X	1608	045836	E101.7	055216	W091.7
1610A	A	0729	0905	X	X		X		X	X	X	X	1609	064601	E074.9	073941	W118.6
1611A	A	0910	1051	X	X		X		X	X	X	X	1610	083325	E048.0	092706	W145.4
1612A	A	1055	1235	X	X		X		X	X	X	X	1611	102050	E021.2	111430	W172.3
1613A	A	1240	1423	X	X		X		X	X	X	X	1612	120815	W005.7	130155	E160.9
1614A	A	1427	1609	X	X		X		X	X	X	X	1613	135539	W032.6	144920	E134.0
1615A	A	1613	1751	X	X		X		X	X	X	X	1614	154304	W059.4	163644	E107.2
*1616A	A	1859	1936	X	X		X		X	X	X	X	1615	173029	W086.3	182409	E080.3
1617A	A	1941	2122	X	X		X		X	X	X	X	1616	191753	W113.1	201134	E053.5
1618A	A	2126	2310	X	X		X		X	X	X	X	1617	210518	W140.0	215858	E026.6
16180	B	2306	0010				X		X	X	X	X	1618	225243	W166.8	234623	W000.2

*LRIR + THIR ON FROM 1754 TO 1936

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
11 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
16190	A	0010	0207				X		X	X	X	X	1619	004007	E166.3	013548	W027.1
1621R	A	0218	0401	X	X		X		X	X	X	X	1620	022732	E139.5	032112	W054.0
1621R	B	0401	0458	X	X		X		X	X	X	X	1621	041457	E112.6	050837	W080.8
1622R	A	0458	0642	X	X		X		X	X	X	X	1622	060221	E085.8	065602	W107.7
1623A	A	0646	0821	X	X		X		X	X	X	X	1623	074946	E059.9	084327	W134.5
1624A	A	0825	1010	X	X		X		X	X	X	X	1624	093711	E032.1	103051	W161.4
1625A	A	1014	1154	X	X		X		X	X	X	X	1625	112436	E005.2	121816	E171.8
1626A	A	1158	1339	X	X		X		X	X	X	X	1626	131200	W021.7	140541	E144.9
1627A	A	1343	1527	X	X		X		X	X	X	X	1627	145925	W048.5	155305	E118.1
1628A	A	1529	1709	X	X		X		X	X	X	X	1628	164650	W075.4	174030	E091.2
1629A	A	1713	1854	X	X		X		X	X	X	X	1629	183414	W102.2	192755	E064.4
1630A	A	1858	2037	X	X		X		X	X	X	X	1630	202139	W129.1	211520	E037.5
1631A	A	2042	2225	X	X		X		X	X	X	X	1631	220904	W155.9	230244	E010.7
16320	B	2223	2327				X		X	X	X	X	1632	235629	E177.2	005009	W016.2

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
12 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
16320	A	2327	0127				X		X	X	X	X	1633	014353	E150.4	023734	W046.0
1633O	A	0134	0313				X		X	X	X	X	1634	033118	E123.5	042459	W069.9
1637A	B	0431	0535	X	X		X		X	X	X	X	1635	051843	E096.7	061223	W096.8
1636A	A	0537	0739	X	X	X	X		X	X	X	X	1636	070608	E069.8	075948	W123.6
1637A	A	0746	0923	X	X	X	X		X	X	X	X	1637	085332	E043.0	094713	W150.5
1638A	A	0927	1115	X	X	X	X		X	X	X	X	1638	104057	E016.1	113438	W177.3
1639A	A	1119	1300	X	X		X		X	X	X	X	1639	122822	W010.7	132202	E155.8
1640A	A	1304	1441	X	X		X		X	X	X	X	1640	141547	W037.6	150927	E129.0
1641A	A	1445	1628	X	X		X		X	X	X	X	1641	160311	W064.5	165652	E102.1
1642A	A	1632	1810	X	X		X		X	X	X	X	1642	175036	W091.3	184417	E075.3
1643A	A	1814	1956	X	X		X		X	X	X	X	1643	193801	W118.2	203141	E048.4
1644A	A	2000	2145	X	X	X	X		X	X	X	X	1644	212526	W145.0	221906	E021.6
1645A	A	2149	2329	X	X	X	X		X	X	X	X	1645	231250	W171.9	000631	W005.3
16450	B	2328	0031			X	X		X	X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
13 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T H D E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
16460	A	0031	0229			X	X		X	X	X	X	1646	010015	E161.3	015356	W032.1
1648R	A	0238	0421	X	X		X		X	X	X	X	1647	024740	E134.4	034121	W059.0
1648R	B	0421	0518	X	X		X		X	X	X	X	1648	043505	E107.6	052845	W085.8
1649R	A	0518	0700	X	X		X		X	X	X	X	1649	062229	E080.7	071610	W112.7
1650A	A	0705	0842	X	X		X		X	X	X	X	1650	080954	E053.9	090335	W139.5
1651A	A	0846	1028	X	X		X		X	X	X	X	1651	095719	E027.0	105100	W166.4
1652A	A	1032	1215	X	X		X		X	X	X	X	1652	114444	E000.2	123824	E166.8
1653A	A	1219	1400	X	X		X		X	X	X	X	1653	133209	W026.7	142549	E139.9
1654A	A	1404	1543	X	X		X		X	X	X	X	1654	151933	W053.5	161314	E113.0
1655A	A	1547	1729		X		X	X	X	X	X	X	1655	170658	W080.4	180039	E086.2
1656A	A	1733	1915		X		X	X		X	X	X	1656	185423	W107.3	194804	E059.3
1657A	A	1919	2100		X		X	X		X	X	X	1657	204148	W134.1	213529	E032.5
1658A	A	2105	2245		X		X	X		X	X	X	1658	222913	W161.0	232255	E005.6
16590	B	2244	2347				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
14 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T H D E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
16590	A	2347	0102				X	X		X	X	X	1659	001637	E172.2	011018	W021.2
1660O	A	0154	0333				X	X		X	X	X	1660	020402	E145.3	025743	W048.1
1661R	B	0333	0432		X		X	X		X	X	X	1661	035127	E118.5	044508	W074.9
1662R	A	0431	0619		X		X	X		X	X	X	1662	053858	E091.6	063238	W101.8
1663A	A	0623	0759		X		X	X		X	X	X	1663	072623	E064.8	082003	W128.7
1664A	A	0804	0946		X		X	X		X	X	X	1664	091347	E037.9	100728	W155.5
1665A	A	0950	1130		X		X	X		X	X	X	1665	110112	E011.1	115453	E177.6
1666A	A	1134	1319		X		X	X		X	X	X	1666	124837	W015.8	134218	E150.8
1667A	A	1324	1504		X	X	X	X		X	X	X	1667	143602	W042.7	152943	E123.9
1668A	A	1508	1646		X	X	X			X	X	X	1668	162327	W069.5	171708	E097.1
1669A	A	1650	1833		X	X	X			X	X	X	1669	181052	W096.4	190432	E070.2
1670A	A	1837	2015		X	X	X			X	X	X	1670	195817	W123.2	205157	E043.4
1671A	A	2019	2202		X		X	X		X	X	X	1671	214541	W150.1	223922	E016.5
16720	B	2200	2302				X	X		X	X	X	1672	233306	W176.9	002647	W010.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
15 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
16730	A	0111	0251				X	X		X	X	X	1673	012031	E156.2	021412	W037.2
1675R	A	0257	0443		X		X	X		X	X	X	1674	030756	E129.4	040137	W064.1
1675R	B	0441	0537		X		X	X		X	X	X	1675	045921	E102.5	054902	W090.9
1676R	A	0538	0720		X		X	X		X	X	X	1676	064246	E075.7	073627	W117.8
1677A	A	0724	0903		X		X	X		X	X	X	1677	083011	E048.8	092352	W144.6
1678A	A	0907	1047		X		X	X		X	X	X	1678	101736	E022.0	111116	W171.5
1679A	A	1052	1235		X		X	X		X	X	X	1679	120501	W004.9	125841	E161.7
1680A	A	1240	1421		X		X	X		X	X	X	1680	135225	W031.8	144606	E134.8
1681A	A	1425	1604		X		X	X		X	X	X	1681	153950	W058.6	163331	E108.0
1682A	A	1608	1751	X	X		X	X		X		X	1682	172715	W085.5	182056	E081.1
1683A	A	1755	1935	X	X		X	X		X		X	1683	191440	W112.3	200821	E054.3
1684A	A	1939	2121		X		X	X		X	X	X	1684	210205	W139.2	215546	E027.4
1685A	A	2125	2306		X		X	X		X	X	X	1685	224930	W166.0	234311	E000.6
16860	B	2304	0007				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
16 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
16860	A	0007	0205				X	X		X	X	X	1686	003655	E167.1	013036	W026.3
16870	A	0214	0354				X	X		X	X	X	1687	022420	E140.3	031801	W053.2
1688R	B	0354	0452		X		X	X		X	X	X	1688	041145	E113.4	050526	W080.0
1689R	A	0452	0638		X		X	X		X	X	X	1689	055910	E086.6	065251	W106.9
1690A	A	0642	0819		X		X	X		X	X	X	1690	074635	E059.7	084015	W133.7
1691A	A	0823	1005		X		X	X		X	X	X	1691	093359	E032.9	102740	W160.6
1692A	A	1009	1151		X		X	X		X	X	X	1692	112124	E006.0	121505	E172.6
1693A	A	1201	1338		X		X	X		X	X	X	1693	130849	W020.9	140230	E145.7
1694A	A	1342	1523		X		X	X		X	X	X	1694	145614	W047.7	154955	E118.9
1695A	A	1527	1707		X		X	X		X	X	X	1695	164339	W074.6	173720	E092.0
1696A	A	1711	1852		X		X	X		X	X	X	1696	183104	W101.4	192445	E065.2
1697A	A	1856	2036		X		X	X		X	X	X	1697	201829	W128.3	211210	E038.3
1698A	A	2040	2222		X		X	X		X	X	X	1698	220554	W155.1	225935	E011.5
1699A	A	2226	0010		X		X	X		X	X	X	1699	235319	E178.0	004700	W015.4

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
17 OCTOBER 1975

INI ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
1702R	B	0105	0210		X		X	X		X	X	X	1700	014044	E151.2	023425	W042.3
1701R	A	0210	0409		X		X	X		X	X	X	1701	032809	E124.3	042150	W069.1
1702R	A	0416	0555		X		X	X		X	X	X	1702	051534	E097.5	060915	W096.0
1703A	A	0557	0735		X		X	X		X	X	X	1703	070259	E070.6	075640	W122.8
1704A	A	0739	0923		X		X	X		X	X	X	1704	085024	E043.7	094405	W149.7
1705A	A	0927	1111		X		X	X		X	X	X	1705	103749	E016.9	113130	W176.5
1706A	A	1115	1255		X		X	X		X	X	X	1706	122514	W010.0	131855	E156.6
1707A	A	1258	1441		X	X	X	X		X	X	X	1707	141239	W036.8	150620	E129.8
1708A	A	1445	1623		X	X	X			X	X	X	1708	160004	W063.7	165345	E102.9
1709A	A	1627	1806		X	X	X			X	X	X	1709	174729	W090.5	184110	E076.1
1710A	A	1810	1955		X	X	X			X	X	X	1710	193454	W117.4	202835	E049.2
1711A	A	1957	2139		X		X	X		X	X	X	1711	212219	W144.2	221600	E022.3
1712A	A	2143	2326		X		X	X		X	X	X	1712	230944	W171.1	000325	W004.5
17120	B	2325	0029				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
18 OCTOBER 1975

INI ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
17130	A	0028	0226				X	X		X	X	X	1713	005709	E162.1	015050	W031.4
1715R	A	0235	0418		X		X	X		X	X	X	1714	024434	E135.2	033815	W058.2
1715R	B	0417	0514		X		X	X		X	X	X	1715	043159	E108.4	052540	W085.1
1716R	A	0514	0658		X		X	X		X	X	X	1716	061924	E081.5	071305	W111.9
1717A	A	0702	0839		X		X	X		X	X	X	1717	080649	E054.6	090030	W138.8
1718A	A	0843	1026		X		X	X		X	X	X	1718	095414	E027.8	104755	W165.6
1719A	A	1030	1211		X		X	X		X	X	X	1719	114139	E000.9	123520	E167.5
1720A	A	1215	1357		X		X	X		X	X	X	1720	132904	W025.9	142245	E140.7
1721A	A	1401	1541		X		X	X		X	X	X	1721	151629	W052.8	161010	E113.8
1722A	A	1545	1725		X		X	X		X	X	X	1722	170354	W079.6	175735	E086.9
1723A	A	1729	1910		X		X	X		X	X	X	1723	185119	W106.5	194500	E060.1
1724A	A	1914	2055		X		X	X		X	X	X	1724	203844	W133.3	213225	E033.2
1725A	A	2101	2242		X		X	X		X	X	X	1725	222609	W160.2	231950	E006.4
17260	B	2240	2343				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
19 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
17260	A	2344	0142				X	X		X	X	X	1726	001334	E175.0	010715	W020.5
17270	A	0150	0330				X	X		X	X	X	1727	020059	E146.1	025440	W047.3
1728R	B	0330	0430		X		X	X		X	X	X	1728	034824	E119.2	044205	W074.2
1729R	A	0430	0615		X		X	X		X	X	X	1729	053549	E092.4	062930	W101.0
1730A	A	0618	0756		X		X	X		X	X	X	1730	072914	E065.5	081655	W127.9
1731A	A	0808	0941		X		X	X		X	X	X	1731	091039	E038.7	100421	W154.8
1732A	A	0946	1130		X		X	X		X	X	X	1732	105804	E011.8	115146	E178.4
1733A	A	1135	1313		X		X	X		X	X	X	1733	124529	W015.0	133911	E151.5
1734A	A	1316	1458		X		X	X		X	X	X	1734	143255	W041.9	152636	E124.7
1735A	A	1502	1642		X		X	X		X	X	X	1735	162020	W068.7	171401	E097.8
1736A	A	1645	1826		X		X	X		X	X	X	1736	180745	W095.6	190126	E071.0
1737A	A	1830	2010		X		X	X		X	X	X	1737	195510	W122.5	204851	E044.1
1738A	A	2014	2159		X		X	X		X	X	X	1738	214235	W149.3	223616	E017.3
17400	B	2157	2300				X	X		X	X	X	1739	233000	W176.2	002341	W009.6
17390	A	2321	0059				X	X		X	X	X					

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
20 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
17400	A	0106	0249				X	X		X	X	X	1740	011725	E157.0	021106	W036.4
1742R	A	0256	0439		X		X	X		X	X	X	1741	030450	E130.1	035831	W063.3
1742R	B	0436	0535		X		X	X		X	X	X	1742	045215	E103.3	054556	W090.2
1743R	A	0535	0718		X		X	X		X	X	X	1743	063940	E076.4	073322	W117.0
1744A	A	0722	0859		X		X	X		X	X	X	1744	082705	E049.6	092047	W143.9
1745A	A	0903	1045		X		X	X		X	X	X	1745	101430	E022.7	110811	W170.7
1746A	A	1050	1231		X		X	X		X	X	X	1746	120156	W004.2	125537	E162.4
1747A	A	1235	1417		X		X	X		X	X	X	1747	134921	W031.0	144302	E135.6
1748A	A	1421	1559		X		X	X		X	X	X	1748	153646	W057.9	163027	E108.7
1749A	A	1603	1749	X	X		X		X	X	X	X	1749	172411	W084.7	181752	E081.9
1750A	A	1753	1930	X	X		X		X	X	X	X	1750	191136	W111.6	200517	E055.0
1751A	A	1934	2116	X	X		X		X	X	X	X	1751	205901	W138.4	215242	E028.2
1752A	A	2120	2303	X	X		X		X	X	X	X	1752	224626	W165.3	234007	E001.3

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
21 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
17530	A	0004	0202				X		X	X	X	X	1753	003351	E167.9	012733	W025.6
17540	A	0222	0353				X		X	X	X	X	1754	022116	E141.0	031458	W052.4
1755R	B	0354	0440	X	X		X		X	X	X	X	1755	040842	E114.2	050225	W079.3
1756R	A	0448	0635	X	X		X		X	X	X	X	1756	055616	E087.3	064958	W106.2
1757A	A	0638	0816	X	X								1757	074342	E060.4	083723	W133.0
1758A	A	0821	1003	X	X		X		X	X	X	X	1758	093107	E033.6	102448	W159.9
1759A	A	1007	1149	X	X		X		X	X	X	X	1759	111832	E006.7	121214	E173.3
1760A	A	1154	1336	X	X		X		X	X	X	X	1760	130557	W020.2	135939	E146.4
1761A	A	1340	1519	X	X		X		X	X	X	X	1761	145323	W047.0	154704	E119.6
1762A	A	1525	1703	X	X	X	X		X	X	X	X	1762	164048	W073.9	173429	E092.7
1763A	A	1708	1848	X	X		X		X	X	X	X	1763	182813	W100.7	192154	E065.9
1764A	A	1852	2031	X	X		X		X	X	X	X	1764	201538	W127.6	210919	E039.0
1765A	A	2035	2218	X	X		X		X	X	X	X	1765	220303	W154.4	225645	E012.2
17660	B	2217	2320				X		X	X	X	X	1766	235028	E178.7	004410	W014.7

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
22 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	T H I R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
17660	A	2321	0118				X		X	X	X	X	1767	013754	E151.9	023135	W041.6
17670	A	0129	0306				X		X	X	X	X	1768	032519	E125.0	041900	W068.4
1768R	B	0307	0407	X	X		X		X	X	X	X	1769	051244	E098.2	060626	W095.3
1769R	A	0407	0554	X	X		X		X	X	X	X	1770	070009	E071.5	075351	W122.1
1770A	A	0559	0733	X	X		X		X	X	X	X	1771	084735	E044.4	094116	W149.0
1771A	A	0737	0921	X	X		X		X	X	X	X	1772	103500	E017.6	112841	W175.8
1772A	A	0925	1106	X	X		X		X	X	X	X	1773	122225	W009.3	131606	E157.3
1773A	A	1110	1252	X	X		X		X	X	X	X	1774	140950	W036.1	150332	E130.5
1774A	A	1256	1439	X	X		X		X	X	X	X	1775	155715	W063.0	165057	E103.6
1775A	A	1443	1621		X		X	X	X	X	X		1776	174441	W089.8	183822	E076.7
1776A	A	1625	1806		X		X	X	X	X	X		1777	193206	W116.7	202547	E049.9
1777A	A	1810	1949		X		X	X	X	X	X		1778	211931	W143.5	221313	E023.0
1778A	A	1953	2136		X		X	X	X	X	X		1779	230656	W170.4	000038	W003.8
1779A	A	2141	2324		X		X	X	X	X	X						
17790	B	2322	0025				X	X	X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
23 OCTOBER 1975

INT ORBIT AND STDN	HDR STS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR R	THR IR R	TDR RE E	SCA MR M	ESM RB R	EPR MR R	TWR RL L	HIR RS S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
17800	A	0025	0223				X	X	X	X	X	1780	005422	E162.7	014803	W030.7
1782R	A	0231	0416		X		X	X	X	X	X	1781	024147	E135.9	033528	W057.5
1782R	B	0414	0512		X		X	X	X	X	X	1782	042912	E109.0	052254	W084.4
1783R	A	0513	0655		X		X	X	X	X	X	1783	061637	E082.2	071019	W111.2
1784A	A	0701	0838		X		X	X	X	X	X	1784	080403	E055.3	085744	W138.1
1785A	A	0842	1022		X		X	X	X	X	X	1785	095128	E028.5	104509	W165.0
1786A	A	1026	1208		X		X	X	X	X	X	1786	113853	E001.6	123235	E168.2
1787A	A	1212	1353		X		X	X	X	X	X	1787	132618	W025.2	142000	E141.3
1788A	A	1359	1538		X		X	X	X	X	X	1788	151344	W052.1	160725	E114.5
1789A	A	1542	1721	X	X		X	X	X	X	X	1789	170109	W079.0	175450	E087.6
1790A	A	1726	1906	X	X		X	X	X	X	X	1790	184834	W105.8	194216	E060.8
1791A	A	1910	2054		X		X	X	X	X	X	1791	203600	W132.7	212941	E033.9
1792A	A	2058	2240		X		X	X	X	X	X	1792	222325	W159.5	231706	E007.1

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
24 OCTOBER 1975

INT ORBIT AND STDN	HDR STS	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR R	THR IR R	TDR RE E	SCA MR M	ESM RB R	EPR MR R	TWR RL L	HIR RS S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
1795R	A	0128	0327		X		X	X	X	X	X	1793	001050	E173.6	010432	W019.8
1795R	B	0325	0430		X		X	X	X	X	X	1794	015815	E146.8	025157	W046.7
1796R	A	0430	0614		X		X	X	X	X	X	1795	034541	E119.9	043922	W073.5
1797A	A	0618	0754		X		X	X	X	X	X	1796	053306	E093.1	062647	W100.4
1798A	A	0758	0939		X		X	X	X	X	X	1797	072031	E066.2	081413	W127.2
1799A	A	0943	1126		X		X	X	X	X	X	1798	090757	E039.4	100138	W154.1
1800A	A	1130	1311		X		X	X	X	X	X	1799	105522	E012.5	114903	E179.1
1801A	A	1315	1457	X	X		X	X	X	X	X	1800	124247	W014.4	133629	E152.2
1802A	A	1501	1640	X	X		X		X	X	X	1801	143012	W041.2	152354	E125.4
1803A	A	1644	1824	X	X		X		X	X	X	1802	161738	W068.1	171119	E098.5
1804A	A	1828	2009	X	X		X		X	X	X	1803	180503	W094.9	185845	E071.7
1805A	A	2014	2156	X	X		X		X	X	X	1804	195228	W121.8	204610	E044.8
18060	A	2201	0002				X		X	X	X	1805	213954	W148.6	223335	E017.9
												1806	232719	W175.5	002101	W008.9

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
25 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
18070	A	0105	0244				X		X	X	X		1807	011444	E157.7	020826	W035.8
1809R	A	0251	0437	X	X		X		X	X	X		1808	030210	E130.8	035551	W062.6
1809R	B	0439	0551	X	X		X		X	X	X		1809	044935	E103.9	052417	W089.5
1810R	A	0532	0716	X	X		X		X	X	X		1810	063700	E077.1	073042	W116.4
1811A	A	0720	0858	X	X		X		X	X	X		1811	082426	E050.2	091807	W143.2
1812A	A	0902	1043	X	X		X		X	X	X		1812	101151	E023.4	110533	W170.1
1813A	A	1047	1228	X	X		X		X	X	X		1813	115916	W003.5	125258	E163.1
1814A	A	1232	1413	X	X		X		X	X	X		1814	134642	W030.3	144023	E136.2
1815A	A	1417	1559	X	X		X		X	X	X		1815	153407	W057.2	162749	E109.4
1816A	A	1603	1741	X	X		X		X	X	X		1816	172132	W084.1	181514	E082.5
1817A	A	1745	1926	X	X		X		X	X	X		1817	190858	W110.9	200259	E055.7
1818A	A	1930	2113	X	X		X		X	X	X		1818	205623	W137.8	215005	E028.8
1819A	A	2117	2300	X	X		X		X	X	X		1819	224349	W164.6	233750	E002.0
18200	B	2258	0001				X		X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
26 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	I D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
18200	A	0002	0201				X		X	X	X		1820	003114	E168.5	012456	W024.9
18210	A	0209	0349				X		X	X	X		1821	021839	E141.7	031221	W051.8
1822R	B	0349	0446	X	X		X		X	X	X		1822	040605	E114.8	045946	W078.6
1823R	A	0446	0633	X	X		X		X	X	X		1823	055330	E088.0	064712	W105.5
1824A	A	0637	0813	X	X		X		X	X	X		1824	074055	E061.1	083437	W132.3
1825A	A	0817	1001	X	X		X		X	X	X		1825	092821	E034.2	102203	W159.2
1826A	A	1005	1146	X	X		X		X	X	X		1826	111546	E007.4	120928	E174.0
1827A	A	1150	1331	X	X		X		X	X	X		1827	130312	W019.5	135653	E147.1
1828A	A	1335	1519	X	X		X		X	X	X		1828	145037	W046.3	154419	E120.3
1829A	A	1523	1659	X	X		X	X		X	X		1829	163802	W073.2	173144	E093.4
1830A	A	1703	1843	X	X		X	X		X	X		1830	182528	W100.0	191910	E066.5
1831A	A	1849	2029	X	X		X	X		X	X		1831	201253	W126.9	210635	E039.7
1832A	A	2033	2217	X	X		X	X		X	X		1832	220019	W153.8	225400	E012.8
18330	B	2214	2317				X	X		X	X		1833	234744	E179.4	004126	W014.0
18330	A	2318	0117				X	X		X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
27 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	I H R R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
18340	A	0125	0305				X	X		X	X		1834	013509	E152.5	022851	W040.9
1835R	B	0305	0405	X	X		X	X		X	X		1835	032235	E125.7	041617	W067.7
1836R	A	0404	0549	X	X		X	X		X	X		1836	051000	E098.8	060342	W094.6
1837A	A	0554	0730	X	X		X	X		X	X		1837	065726	E072.0	075107	W121.5
1838A	A	0734	0914	X	X		X	X		X	X		1838	084451	E045.1	093833	W148.3
1839A	A	0921	1102	X	X		X	X		X	X		1839	103217	E018.3	112558	W175.2
1840A	A	1106	1250	X	X		X	X		X	X		1840	121942	W008.6	131324	E158.0
1841A	A	1255	1434	X	X		X	X		X	X		1841	140707	W035.5	150049	E131.1
1842A	A	1438	1617	X	X		X	X		X	X		1842	155433	W062.3	164815	E104.3
1843A	A	1622	1801	X	X		X	X		X	X		1843	174158	W089.2	183540	E077.4
1844A	A	1805	1947	X	X		X	X		X	X		1844	192924	W116.0	202306	E050.6
1845A	A	1951	2134	X	X		X	X		X	X		1845	211649	W142.9	221031	E023.7
1846A	A	2138	2321	X	X		X	X		X	X		1846	230415	W169.7	235756	W003.2
18460	B	2319	0022				X	X		X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
28 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	OFF HRMN	L R I R	I H R R	T D R E	S C A M	E S M R	E R B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	LONG DEGREE	DESCENDING NODE TIME HRMNSS	LONG DEGREE
18470	A	0022	0220				X	X		X	X		1847	005140	E163.4	014522	W030.0
1849R	A	0230	0414	X	X		X	X		X	X		1848	023906	E136.6	033247	W056.9
1849R	B	0413	0510	X	X		X	X		X	X		1849	042632	E109.7	052014	W083.7
1850R	A	0510	0653	X	X		X	X		X	X		1850	061357	E082.8	070739	W110.6
1851A	A	0657	0834	X	X		X	X		X	X		1851	080123	E056.0	085505	W137.5
1852A	A	0838	1019	X	X		X	X		X	X		1852	094848	E029.1	104230	W164.3
1853A	A	1024	1207	X	X		X	X		X	X		1853	113614	E002.3	122956	E168.8
1854A	A	1212	1351	X	X		X	X		X	X		1854	132339	W024.6	141721	E142.0
1855A	A	1355	1538	X	X		X	X	X	X	X		1855	151105	W051.5	160447	E115.1
1856A	A	1543	1718	X	X		X		X	X	X		1856	165830	W078.3	175212	E088.3
1857A	A	1722	1903	X	X		X		X	X	X		1857	184556	W105.2	193938	E061.4
1858A	A	1907	2052	X	X		X		X	X	X		1858	203321	W132.0	212703	E034.6
1859A	A	2056	2237	X	X		X		X	X	X		1859	222047	W158.9	231429	E007.7
18600	B	2235	2338				X		X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
29 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T H D R E	S C A M	E S M R	E B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
18600	A	2338	0120				X		X	X	X		1860	000812	E174.3	010154	W019.2
18610	A	0145	0325				X		X	X	X		1861	015538	E147.4	024920	W046.0
1862R	B	0325	0425	X	X		X		X	X	X		1862	034303	E120.6	043645	W072.9
1863R	A	0423	0611	X	X		X		X	X	X		1863	053029	E093.7	062411	W099.7
1864A	A	0616	0749	X	X		X		X	X	X		1864	071754	E066.8	081136	W126.6
1865A	A	0754	0905	X	X		X		X	X	X		1865	090520	E040.0	095901	W153.4
1866A	A	0940	1123	X	X		X		X	X	X		1866	105245	E013.1	114627	E179.7
1867A	A	1127	1310	X	X		X		X	X	X		1867	124011	W013.7	133353	E152.9
1868A	A	1315	1454	X	X		X		X	X	X		1868	142736	W040.6	152118	E126.0
1869A	A	1458	1637	X	X		X		X	X	X		1869	161502	W067.4	170844	E099.1
1870A	A	1641	1823	X	X		X		X	X	X		1870	180227	W094.3	185609	E072.3
1871A	A	1827	2007	X	X		X		X	X	X		1871	194953	W121.2	204335	E045.4
1872A	A	2011	2154	X	X		X		X	X	X		1872	213718	W148.0	223100	E018.6
1873A	A	2158	2342	X	X		X		X	X	X		1873	232444	W174.9	001826	W008.3
18730	B	2341	0044				X		X	X	X						

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
30 OCTOBER 1975

INT ORBIT AND STDN	H D R S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	L R I R	T H I R	T H D R E	S C A M	E S M R	E B	P M R	T W R L	H I R S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
18740	A	0044	0242				X		X	X	X		1874	011210	E158.3	020551	W035.1
1876R	A	0250	0435	X	X		X		X	X	X		1875	025935	E131.4	035317	W062.0
1876R	B	0434	0528	X	X		X		X	X	X		1876	044701	E104.6	054042	W088.9
1877R	A	0529	0712	X	X		X		X	X	X		1877	063426	E077.7	072808	W115.7
1878A	A	0716	0854	X	X		X		X	X	X		1878	082152	E050.9	091533	W142.6
1879A	A	0858	1039	X	X		X		X	X	X		1879	100917	E024.0	110259	W169.4
1880A	A	1044	1226	X	X		X		X	X	X		1880	115643	W002.9	125025	E163.7
1881A	A	1230	1413	X	X		X	X	X	X	X		1881	134408	W029.7	143550	E136.9
1882A	A	1417	1600	X	X	X	X	X		X	X		1882	153134	W056.6	162516	E110.0
1883A	A	1604	1740	X	X	X	X	X		X			1883	171859	W083.4	181241	E083.1
1884A	A	1744	1921	X	X	X	X	X		X			1884	190625	W110.3	200007	E056.3
1885A	A	1925	2114	X	X	X	X	X		X			1885	205551	W137.1	214732	E029.4
1886A	A	2118	2259	X	X		X	X		X	X		1886	224116	W164.0	233458	E002.6

TABLE 2-2
DATA AVAILABILITY ON-OFF TIMES
31 OCTOBER 1975

INT RBIT AND STDN	HDR S	HDRSS TIME ON HRMN	HDRSS TIME OFF HRMN	LR IR R	TH IR R	ID ER E	SC AM M	ES MR R	ER BR B	PM RR R	TW RL L	HI RR S	DATA ORBIT	ASCENDING NODE TIME HRMNSS	ASCENDING NODE LONG DEGREE	DESCENDING NODE TIME HRMNSS	DESCENDING NODE LONG DEGREE
1889R	A	0143	0343	X	X		X	X		X	X		1887	002842	E169.1	012224	W024.3
1889R	B	0342	0446	X	X		X	X		X	X		1888	021607	E142.3	030949	W051.1
1890R	A	0447	0631	X	X		X	X		X	X		1889	040333	E115.4	045715	W078.0
1891A	A	0635	0810	X	X		X	X		X	X		1890	055059	E088.6	064440	W104.9
1892A	A	0814	0956	X	X		X	X		X	X		1891	073824	E061.7	083206	W131.7
1893A	A	1001	1142	X	X		X	X		X	X		1892	092550	E034.9	101932	W158.6
1894A	A	1146	1326	X	X		X	X		X	X		1893	111315	E008.0	120657	E174.6
1895A	A	1329	1513	X	X		X	X		X	X		1894	130041	W018.9	135423	E147.7
1896A	A	1517	1657	X	X		X	X		X	X		1895	144806	W045.7	154148	E120.9
1897A	A	1701	1841	X	X		X	X		X	X		1896	163532	W072.6	172914	E094.0
1898A	A	1845	2023	X	X		X	X		X	X		1897	182258	W099.4	191640	E067.2
1899A	A	2030	2214	X	X		X	X		X	X		1898	201023	W126.3	210405	E040.3
19000	A	2316	0114				X	X		X	X		1899	215749	W153.1	225131	E013.4
													1900	234515	W180.0	003856	W013.4

SECTION 3

ORBIT DISPLAYS OF HIRS, SCAMS, AND ESMR

This section briefly describes the HIRS, SCAMS and ESMR experiments, explains the formats of the image displays derived from the data of these three experiments, and presents image examples from each of them. Complete descriptions of the HIRS, SCAMS and ESMR experiments are found in Sections 3, 4, and 5, respectively, of The Nimbus 6 User's Guide.

The HIRS is a 17-channel radiometer. Sixteen channels have central wavelengths between 3.7 μm and 15 μm, and one is centered at 0.69 μm to measure reflected sunlight. Spatial resolution at the nadir on the earth's surface is about 25 km (13 n. m.).

The SCAMS is a 5-channel scanning radiometer. Channel 1 lies on a water vapor line near 22 GHz. Channel 2 is on an atmospheric window near 32 GHz. Channels 3, 4, and 5 are within the oxygen band near 54 GHz. Spatial resolution varies from about 145 km (80 n. m.) near nadir to about 330 km (180 n. m.) at the scan limits.

The ESMR is a two-channel scanning radiometer receiving microwave radiation in a 250 MHz band centered at 37 GHz. One channel is used to measure the vertical polarization of the radiation, and the other measures the horizontal polarization. The antenna beam scans ahead of the spacecraft along a conical surface with a constant angle of 45 degrees with respect to the antenna axis. Spatial resolution of each element is about 20 km in the cross-track direction by 45 km in the direction parallel to the subpoint track.

All HIRS, SCAMS, and ESMR data are converted to 4" × 5" black and white images. Selected images from each experiment from September and October 1975 are presented in this section. Complete coverage times for each experiment are listed in the Data Availability On-Off Times in Table 2-2.

Sections 3, 4, and 5 of The Nimbus 6 User's Guide describe in detail the image formats of the HIRS, SCAMS, and ESMR. The following is a summary of the format, detailing changes to the Users Guide where needed. Each display contains the following similar items:

- NIMBUS 6 (HIRS, SCAMS, or ESMR)

 This identifies the satellite and the experiment

- (DATE)

 This identifies the Greenwich month, day, and year the data were recorded on board the satellite.

- SCALE F

 All data from the three experiments have been displayed in the F (full-scale) mode. For each experiment the data from each interrogation orbit is displayed on a single image. Each HIRS scan line is displayed once. Each of the 42 scan-spot elements across a scan is displayed four times. Each SCAMS scan line is displayed three times in succession. Each of the 13 scan-spot elements across a scan line is displayed ten times. Each ESMR scan line is displayed twice. Each of the 71 scan-spot elements is displayed once.

- INT ORBIT

 The interrogation orbit number identifies the orbit in progress when the recorded data is transmitted to a STDN station. Usually parts of two data orbits are on the same display. The interrogation orbit number will only identify the last orbit of each display.

- TIME (and) SUBPOINT

 Satellite time and latitude-longitude information are presented along the vertical line down the center of each display. The line represents the satellite subpoint track, which is located down the center of each of the swaths on each display. Time is GMT with ticks along the left side of the line at each five minute mark (on the five minutes). Time is annotated (hour and minute) every 15 minutes (on the quarter hour).

 Subpoint information presents latitude and longitude positions of the satellite subpoint. Each tick mark on the right side of the vertical line is annotated with the subpoint latitude and longitude (to the nearest degree). Latitude is labeled N (north) or S (south). Longitude is labeled E (east) or W (west).

- GRAY SCALE

 Each image has an 18-step gray scale along the bottom of the display. The gray scales are used to define parameter value intervals for each image swath of each display by assigning different parameter values to the gray scale for each swath. Tables 3-1 through 3-4 define the parameter values versus gray scale for each HIRS, SCAMS, and ESMR image swath.

Table 3-1

Temperature Range of Gray Scale and Channel of HIRS Data for each Swath on each HIRS Image Display between Orbits 1083 and 1900 (1 September through 31 October 1975)

	Swath Number									
	1	2	3	4	5	6	7	8	9	10
HIRS Channel Display (channel-range)*	08-08	16-16	16-21	18-18	17-17	10-10	12-12	14-14	03-03	15-15
Temperature Range (°K) (black-white)	310-230	310-230	310-270	0-50	100-900	280-210	300-210	300-210	240-185	300-185

*The HIRS channel number is number before the hyphen. The number after the hyphen is the computer program table used to display the data from each channel as temperatures (°K). The range of temperatures displayed in each swath is given beneath each "HIRS Channel Display". The 18 steps of the gray scale are used to represent the division of each temperature range into 18 approximately equal temperature intervals. The central wavelength (in μm) of each channel on these displays is: channel 3 = 14.4, 8 = 11.0, 9 = 8.2, 10 = 6.7, 12 = 4.52, 14 = 4.40, 15 = 4.24, 16 = 3.71, 17 = 0.61, and 18 is the temperature difference between channel 16 and channel 8. The values of channel 17-17 are albedo, represented as "counts" between 100 (blackest) and 900 (whitest). The values for 16-21 represent a second temperature range for channel 16 data. Table 3-1 on page 39 in the User's Guide provides detailed spectral information and the purpose of each of the HIRS channels.

Table 3-2

Parameter Value for each Step of the Gray Scale on the SCAMS Image Displays for Parameters 2, 3, 11, 12, and 16 between Orbits 1083 and 1900 (1 September through 31 October 1975)

Gray Scale Number		Parameters					
		2 (31.65 GHz T_A) (°K)	3 (52.85 GHz T_A) (°K)	11 (Integrated water vapor) (g/mm^2)	12* (Integrated liquid water) (g/mm^2)	12** (Integrated liquid water) (g/mm^2)	16 (param. 2) minus (param. 3) (°K)
(black)	1	> 320	> 280	> 60	> 2.0	> 1.5	> 10
	2	306 - 320	276 - 280	56 - 60	1.9 - 2.0	1.4 - 1.5	08 - 10
	3	293 - 306	271 - 276	53 - 56	1.8 - 1.9	1.3 - 1.4	06 - 08
	4	279 - 293	267– 271	49 - 53	1.6 - 1.8	1.2 - 1.3	04 - 06
	5	265 - 279	263 - 267	45 - 49	1.5 - 1.6	1.1 - 1.2	02 - 04
	6	251 - 165	258 - 263	41 - 45	1.4 - 1.5	1.0 - 1.1	00 - 02
	7	238 - 251	254 - 258	38 - 41	1.3 - 1.4	0.9 - 1.0	-02 - 00
	8	224 - 238	248 - 254	34 - 38	1.1 - 1.3	0.8 - 0.9	-04(-) - 02
	9	210 - 224	245 - 248	30 - 34	1.0 - 1.1	0.7 - 0.8	-06(-) - 04
	10	196 - 210	241 - 245	26 - 30	0.9 - 1.0	0.6 - 0.7	-08(-) - 06
	11	183 - 196	236 - 241	23 - 26	0.8 - 0.9	0.5 - 0.6	-10(-) - 08
	12	169 - 183	232 - 236	19 - 23	0.6 - 0.8	0.4 - 0.5	-12(-) - 10
	13	155 - 169	228 - 232	15 - 19	0.5 - 0.6	0.3 - 0.4	-14(-) - 12
	14	141 - 155	223 - 228	11 - 15	0.4 - 0.5	0.2 - 0.3	-16(-) - 14
	15	128 - 141	219 - 223	08 - 11	0.3 - 0.4	0.1 - 0.2	-18(-) - 16
	16	114 - 128	214 - 219	04 - 08	0.1 - 0.3	0.0 - 0.1	-20(-) - 18
	17	100 - 114	210 - 214	00 - 04	0.0 - 0.1	-0.1 - 0.0	-22(-) - 20
(white)	18	< 100	< 210	< 00	< 0.0	< -0.1	< -22

*valid between orbits 1426 and 1900

**valid between orbits 478 and 1425

Table 3-3

Contour Program Options used for Parameters 13, 14, and 15 on the SCAMS Image Displays between Orbits 426 and 1900 (14 July through 31 October 1975)

Contour options	Parameters			Valid for orbits
	13 Mean temperature between 1,000 mb and 500 mb	14 Mean temperature between 500 mb and 250 mb	15 Mean temperature between 250 mb and 100 mb	
Contour interval	4°K	4°K	4°K	426-851
Contour thickness	1°K	1°K	1°K	(14 July-14 August)
Contour interval	4°K	4°K	4°K	852-1900
Contour thickness	2°K	2°K	2°K	(14 August-31 October)

- 3200

 This identifies the computer used to process the data. All data was processed by the Control Data Corporation (CDC) 3200.

While the preceeding format information is similar for HIRS, SCAMS, and ESMR, the swath displays of the data from each experiment are different. Therefore, the following information describes the swath displays for each experiment for this catalog period.

HIRS CHANNEL - RANGE DISPLAYS

Each of the ten swaths on the HIRS displays is described by a "CHANNEL (and) RANGE". The CHANNEL is the HIRS channel number (1 through 17), and the RANGE is the computer program table used to display the data from each channel as temperatures (°K). The CHANNEL-RANGE program used during this catalog period is listed in Table 3-1. The HIRS displays shown in Section 3.1 are examples of the data displayed for each orbit during this period.

The HIRS displays through orbit 1140 (5 September) are similar to the example shown in Section 3.1 for orbit 1114 (3 September). Starting with orbit 1141, however, excessive bit slips began occurring and continued through the end of this catalog period.

Table 3-4

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 828 through 1900 (13 August through 31 October 1975) (Brightness Temperatures are in °K)

Gray Scale Number		Swath Number and ESMR Display Parameter									
		1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 ($\frac{T_H+T_V}{2}$)	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 ($\frac{T_H+T_V}{2}$)	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 ($\frac{T_H+T_V}{2}$)	10 and 20 ($T_V-0.6T_H$)
(black)	1	> 200	> 230	> 210	> 250	> 270	> 250	> 290	> 300	> 280	> 140
	2	196-200	226-230	206-210	246-250	267-270	247-250	287-290	298-300	278-280	136-140
	3	191-196	223-226	203-206	243-246	264-267	244-247	284-287	295-298	275-278	133-136
	4	187-191	219-223	199-203	239-243	261-264	241-244	281-284	293-295	273-275	129-133
	5	183-187	215-219	195-199	235-239	258-261	238-241	278-281	290-293	270-273	125-129
	6	178-183	211-215	191-195	231-235	254-258	234-238	274-278	288-290	268-270	121-125
	7	174-178	208-211	188-191	228-231	251-254	231-234	271-274	285-288	265-268	118-121
	8	169-174	204-208	184-188	224-228	248-251	228-231	268-271	283-285	263-265	114-118
	9	165-169	200-204	180-184	220-224	245-248	225-228	265-268	280-283	260-263	110-114
	10	161-165	196-200	176-180	216-220	242-245	222-225	262-265	278-280	258-260	106-110
	11	156-161	193-196	173-176	213-216	239-242	219-222	259-262	275-278	255-258	103-106
	12	152-156	189-193	169-173	209-213	236-239	216-219	256-259	273-275	253-255	99-103
	13	148-152	185-189	165-169	205-209	233-236	213-216	253-256	270-273	250-253	95-99
	14	143-148	181-185	161-165	201-205	229-233	209-213	249-253	268-270	248-250	91-95
	15	139-143	178-181	158-161	198-201	226-229	206-209	246-249	265-268	245-248	88-91
	16	134-139	174-178	154-158	194-198	223-226	203-206	243-246	263-265	243-245	84-88
	17	130-134	170-174	150-154	190-194	220-223	200-203	240-243	260-263	240-243	80-84
(white)	18	< 130	< 170	< 150	< 190	< 220	< 200	< 240	< 260	< 240	< 80

T_H = Brightness temperature derived from the ESMR horizontal polarization data

T_V = Brightness temperature derived from the ESMR vertical polarization data

These bit slips and increasing HIRS system noise make the imagery after orbit 1140 of limited usefulness. Therefore, only one image beyond this orbit is included to illustrate the effects of these problems on the imagery. (Revised computer processing techniques, to handle these problems, should improve the usefulness of the HIRS digital data - especially from the shortwave and visible channels.)

SCAMS PARAMETER DISPLAYS

The SCAMS displays currently contain eight vertical swaths of data, as shown in the SCAMS figures in Section 3.2. Each swath is labeled with a parameter number. All the displays for this catalog period display the same parameters. All swaths contain the same coverage information, but each contains different spectral or temperature information. The values of the gray scale for each image swath are shown in Table 3-2. The parameter values for the contoured swaths are given in Table 3-3.

Parameters 2, 3, and 16 represent uninverted antenna temperatures. Parameters 2 and 3 represent the antenna temperatures (T_A) for channels 2 (31.65 GHz) and 3 (52.85 GHz). Parameter 16 is the temperature difference between channel 2 and 3.

Parameters 16 and 2 are sensitive to surface characteristics such as ice and snow cover and soil moisture content, as well as the obvious difference in emissivity between land and water. Parameter 3 is principally a measure of lower tropospheric temperature, but is significantly perturbed by surface emissivity and to some extent by atmospheric water vapor and precipitation.

Parameters 11 and 12 represent inverted antenna temperatures. Parameter 11 portrays the integrated atmospheric water vapor and parameter 12 portrays the integrated liquid water from clouds or precipitation. These two parameters are valid only over the oceans. Only SCAMS channels 1 and 2 were used to estimate these two parameters. The data is inverted by a statistical method and the parameters are computed by linear operations on the antenna temperatures for each scan angle separately.

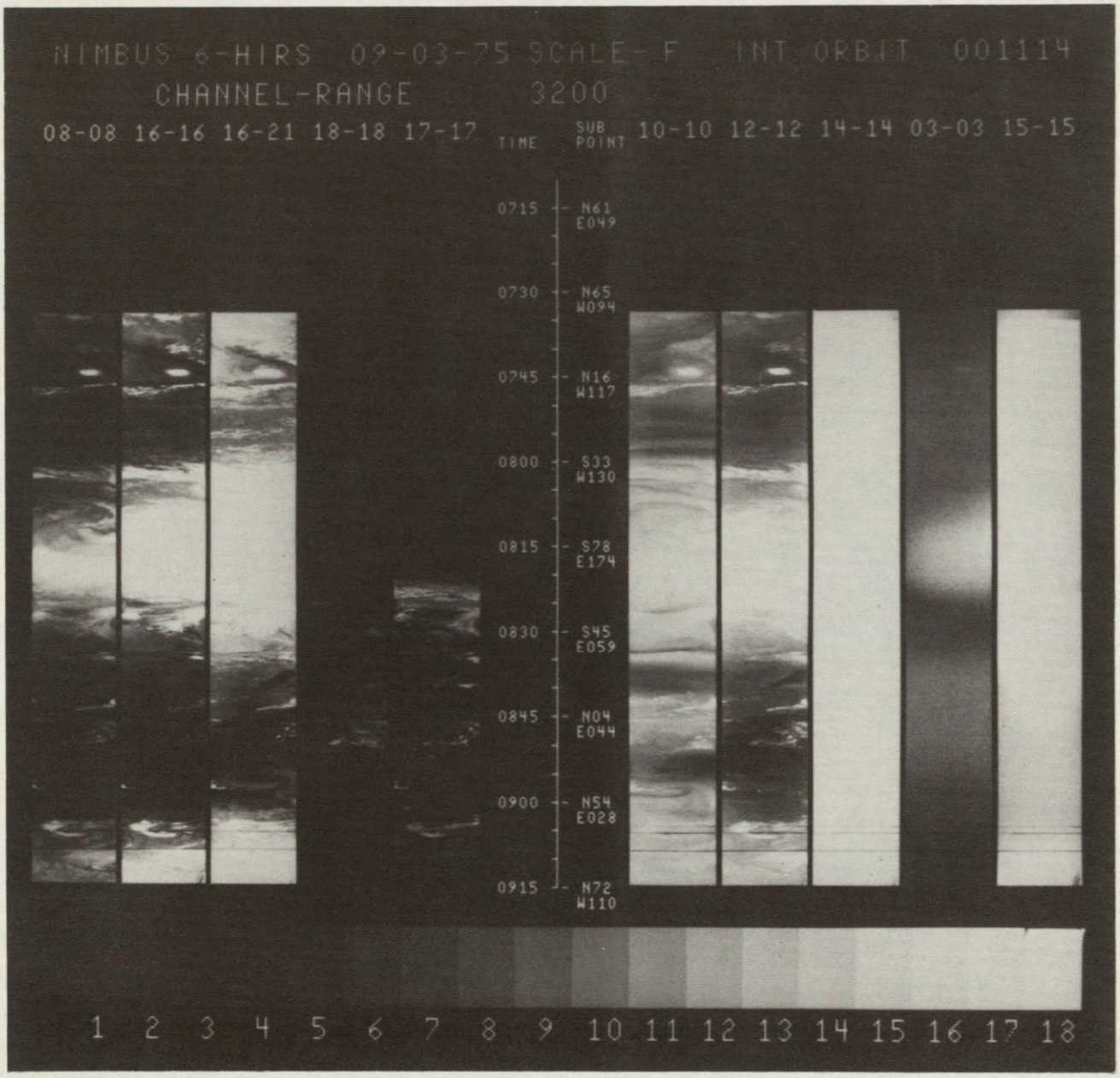
Parameters 13, 14, and 15 are mean temperatures (averaged over the logarithm of pressure) for the atmospheric layers between 1000 mb and 500 mb, 500 mb and 250 mb, and 250 mb and 100 mb, respectively. These temperatures are displayed by contour bands. The bands are spaced 4 degrees K apart, with alternate bands a darker shade of gray (although in some cases problems in photographic processing caused both shades to be saturated white). Prior to orbit 852, (14 August) the bands were approximately 1 degree thick. After this orbit, the thickness was increased to about 2 degrees, so that contour boundaries (between black and gray or white) are evenly spaced at about 2 degree intervals. Each band is labeled, space permitting, with the lowest temperature value within it, i.e., its lower boundary. Prior to orbit 778, (9 August) parameters 13, 14, and 15 were estimated using only the data from

SCAMS channels 3, 4, and 5. The coefficients used in the calculations were determined under the assumption of an ocean surface, so the resulting values were incorrect over land. Starting with orbit 778, channels 1 and 2 were also incorporated into the inversion to correct for the effects of surface emissivity and water vapor. However, there is no correction for surface elevation, so mountains and plateaus still introduce errors in the estimated values.

ESMR CHANNEL - RANGE DISPLAYS

The ESMR displays contain 20 swaths of data, as shown in the ESMR figures in Section 3.3 Swath number 1 is on the far left, with the swath numbers incrementing to swath number 20 on the far right. The left set of ten swaths and their SUBPOINT-TIME line have the same geographic coverage. However, each swath displays either horizontally or vertically polarized data and a temperature range as listed in Table 3-4. The right set of ten swaths and their SUBPOINT-TIME line have a similar format. The right ten swaths display the earliest recorded data. If these swaths were cut and placed above the group on the left, the new display would show the continuous coverage recorded for that orbit. While the geographic coverage is different for each set of ten swaths, the temperature and polarization information are similar. That is, the temperature range and the polarization for swath 1 are the same as for swath 11; similarly, swaths 2 and 12 are the same, etc. Table 3-4 is set up to show this duplication.

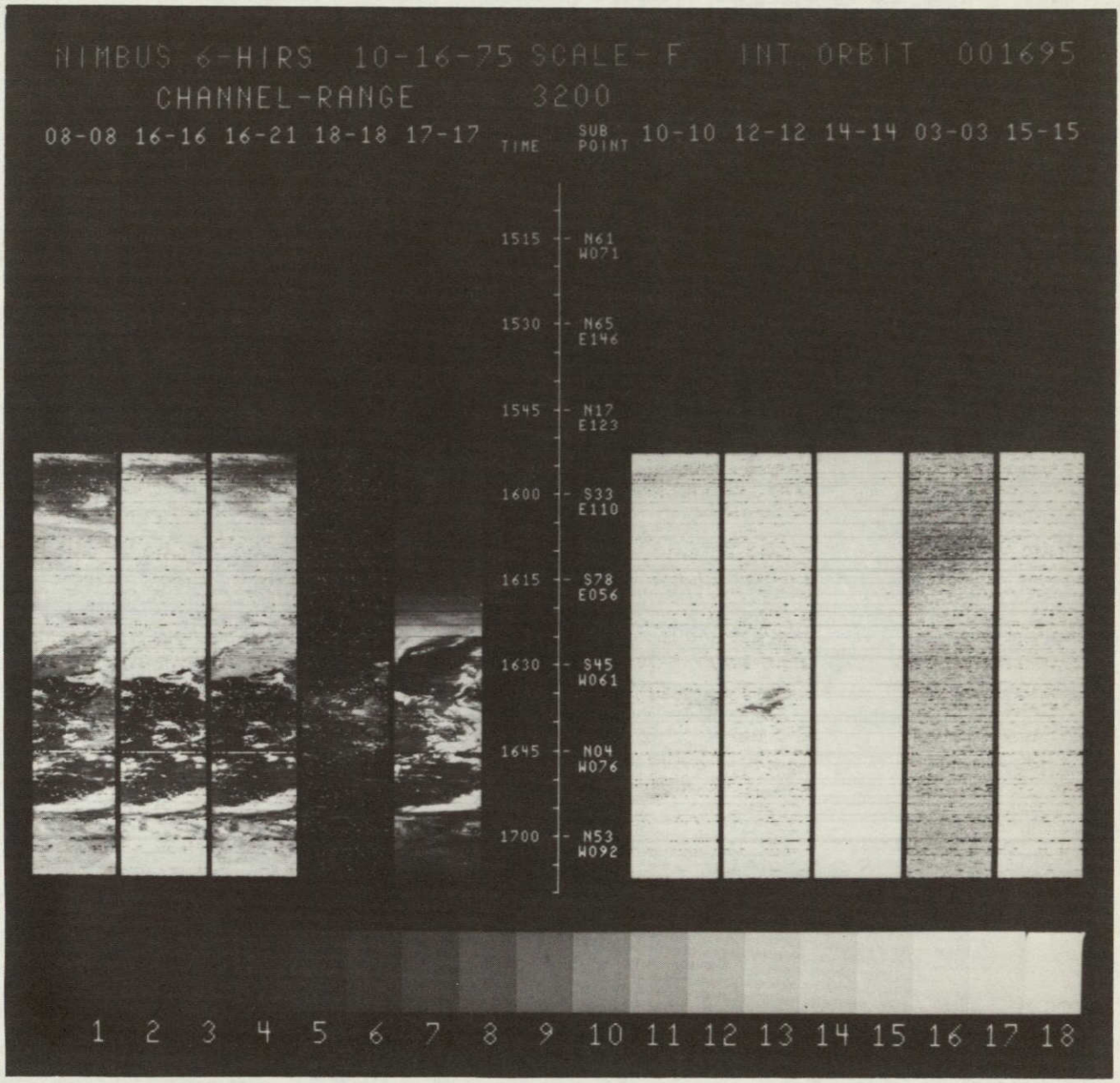
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SECTION 3.1

SELECTED HIRS IMAGE DISPLAYS

Only two displays of HIRS are shown here. Because of an instrument problem, displays after orbit 1140 (5 September) have limited usefulness. Orbit 1695 is presented as an example of the information available in displays for orbits after 1140.



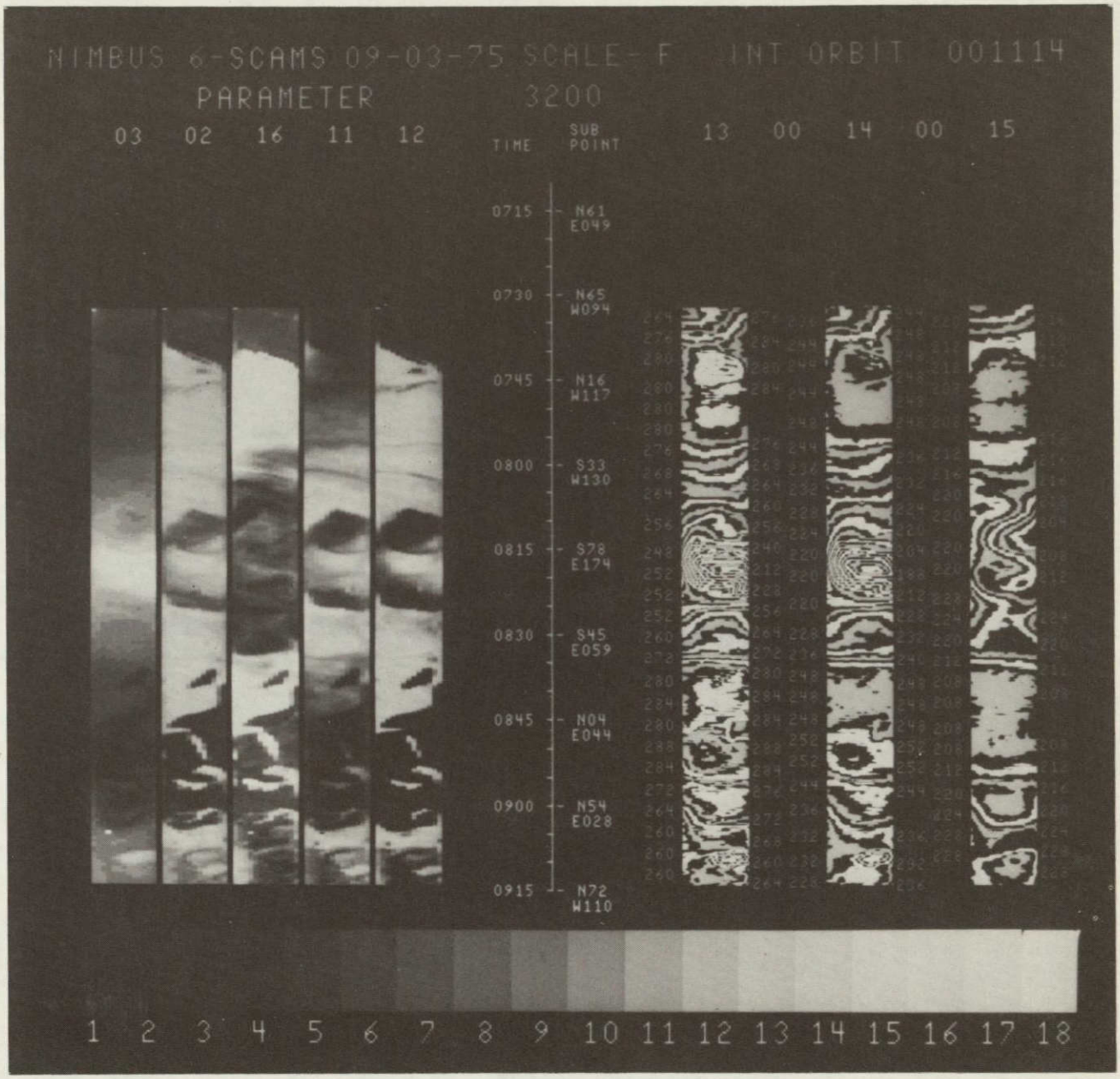
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SECTION 3.2

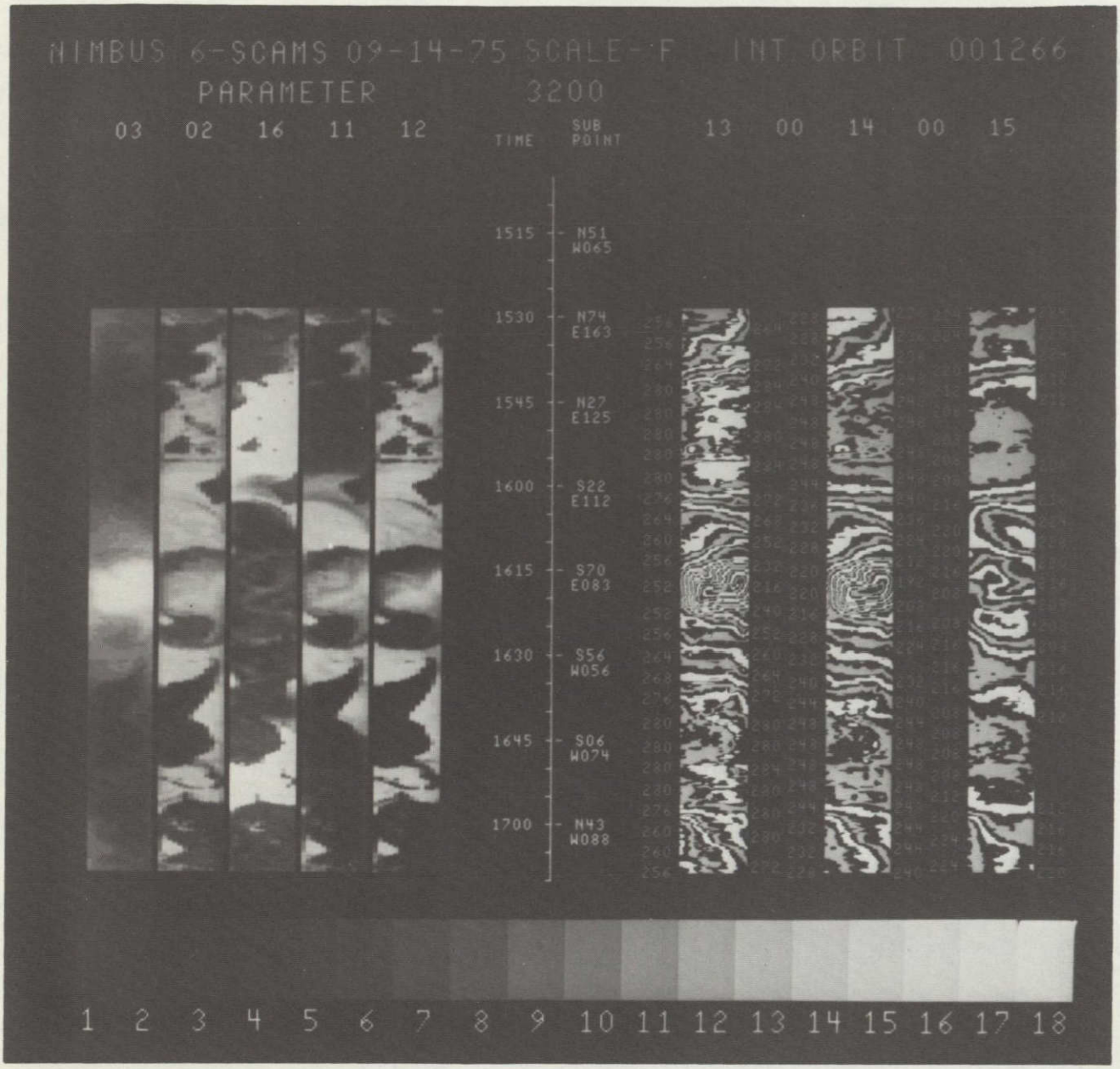
SELECTED SCAMS IMAGE DISPLAYS

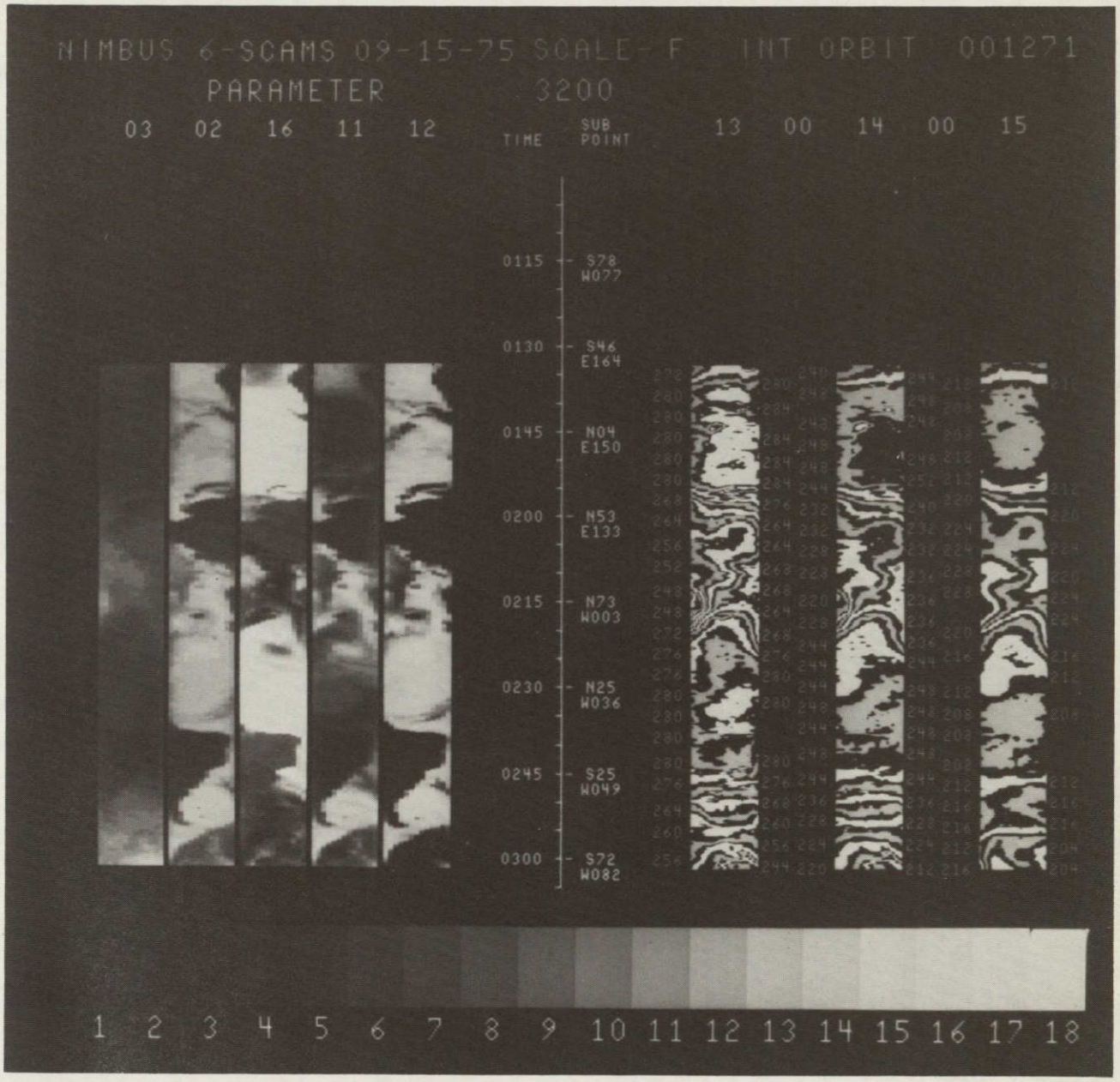
(The same orbits of ESMR images are shown in Section 3.3).

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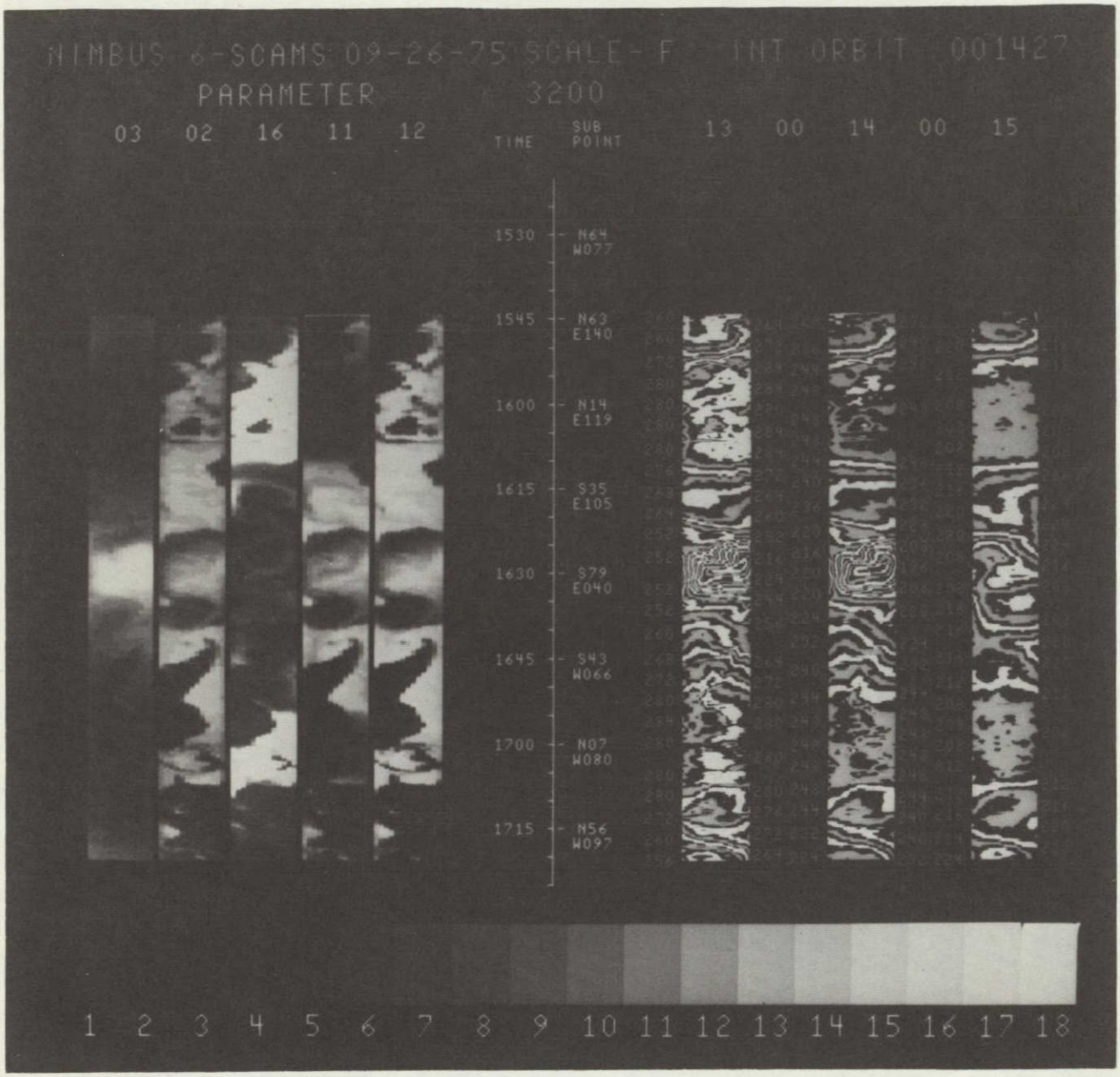
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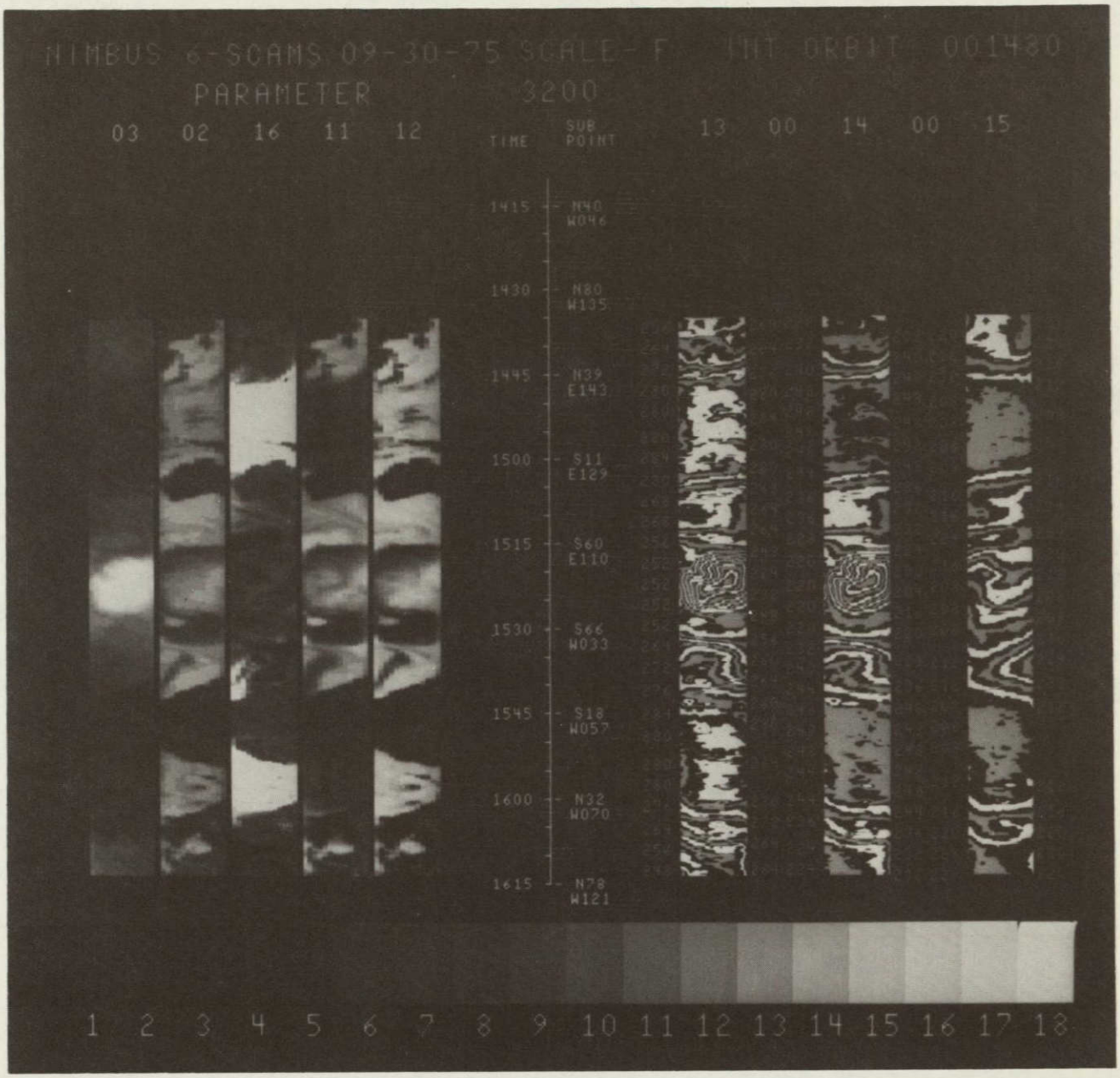




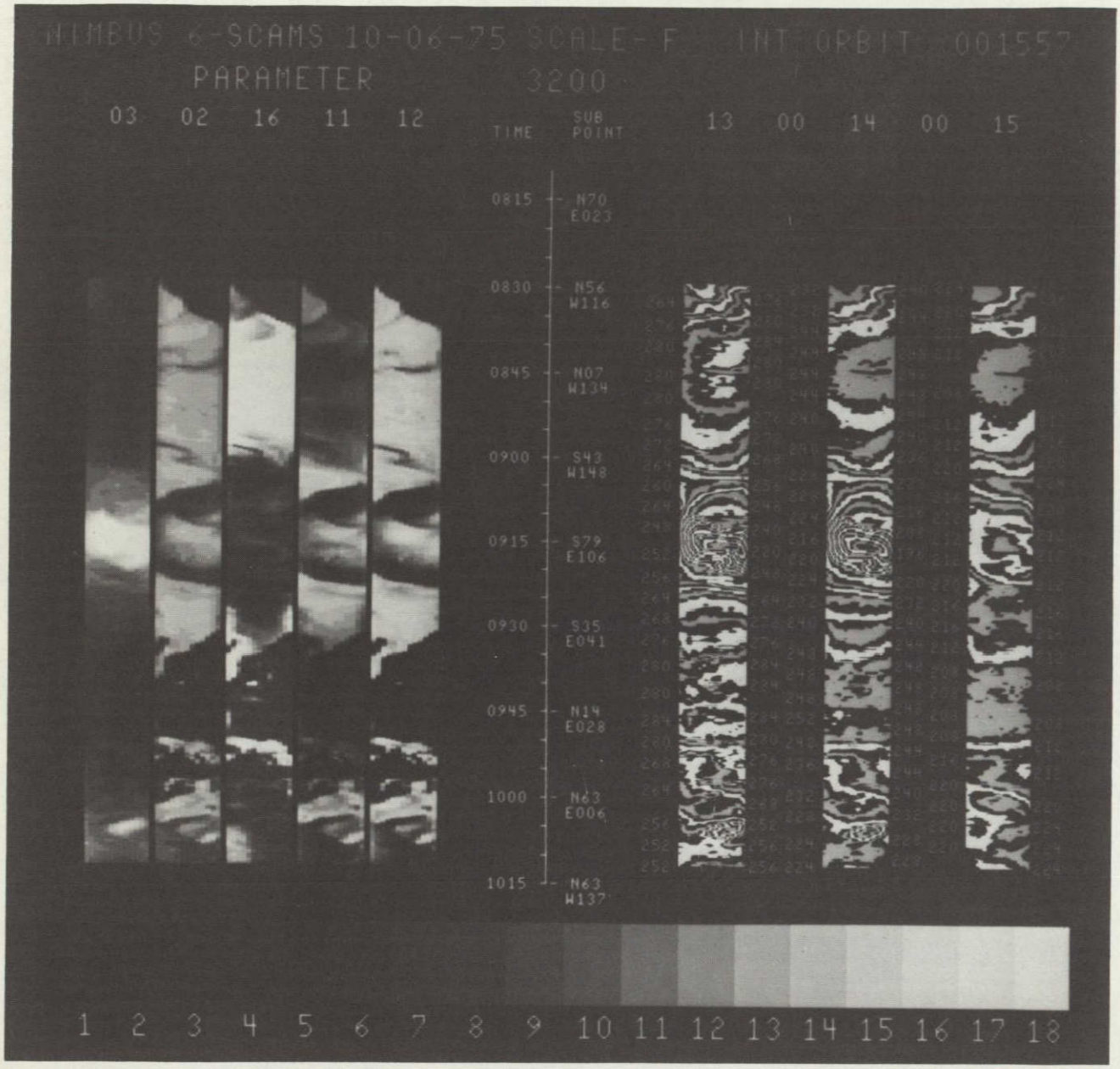
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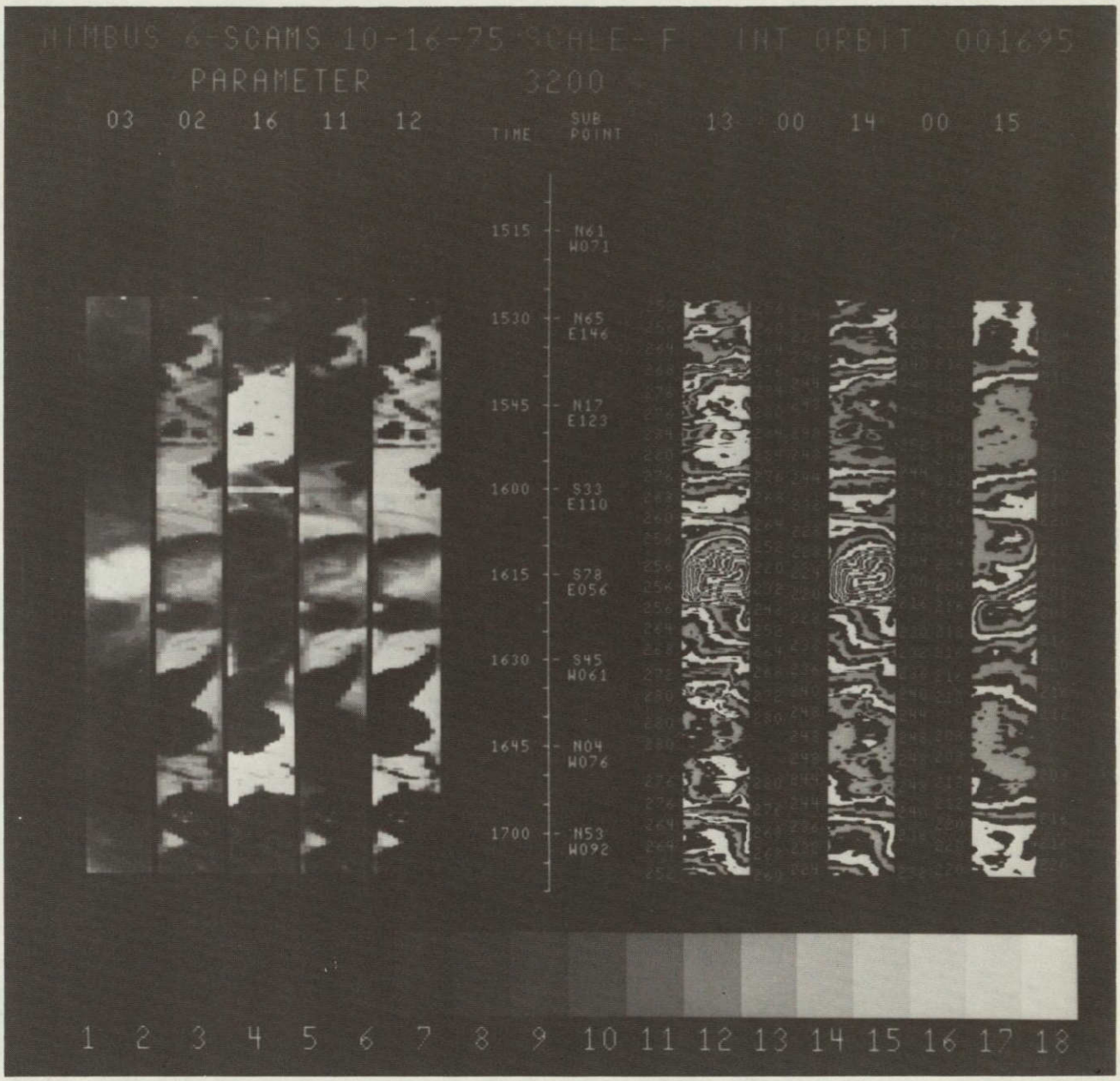




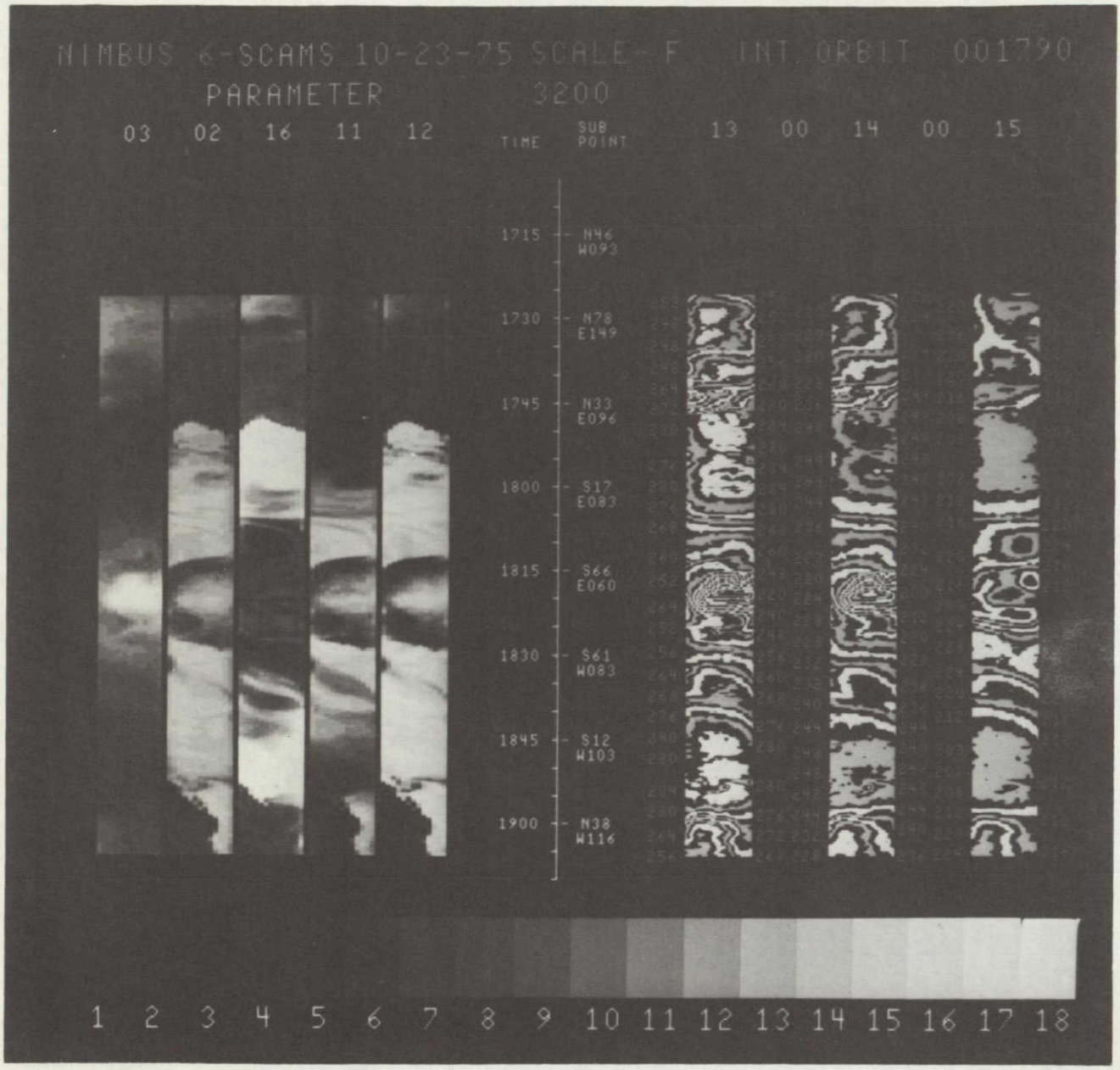
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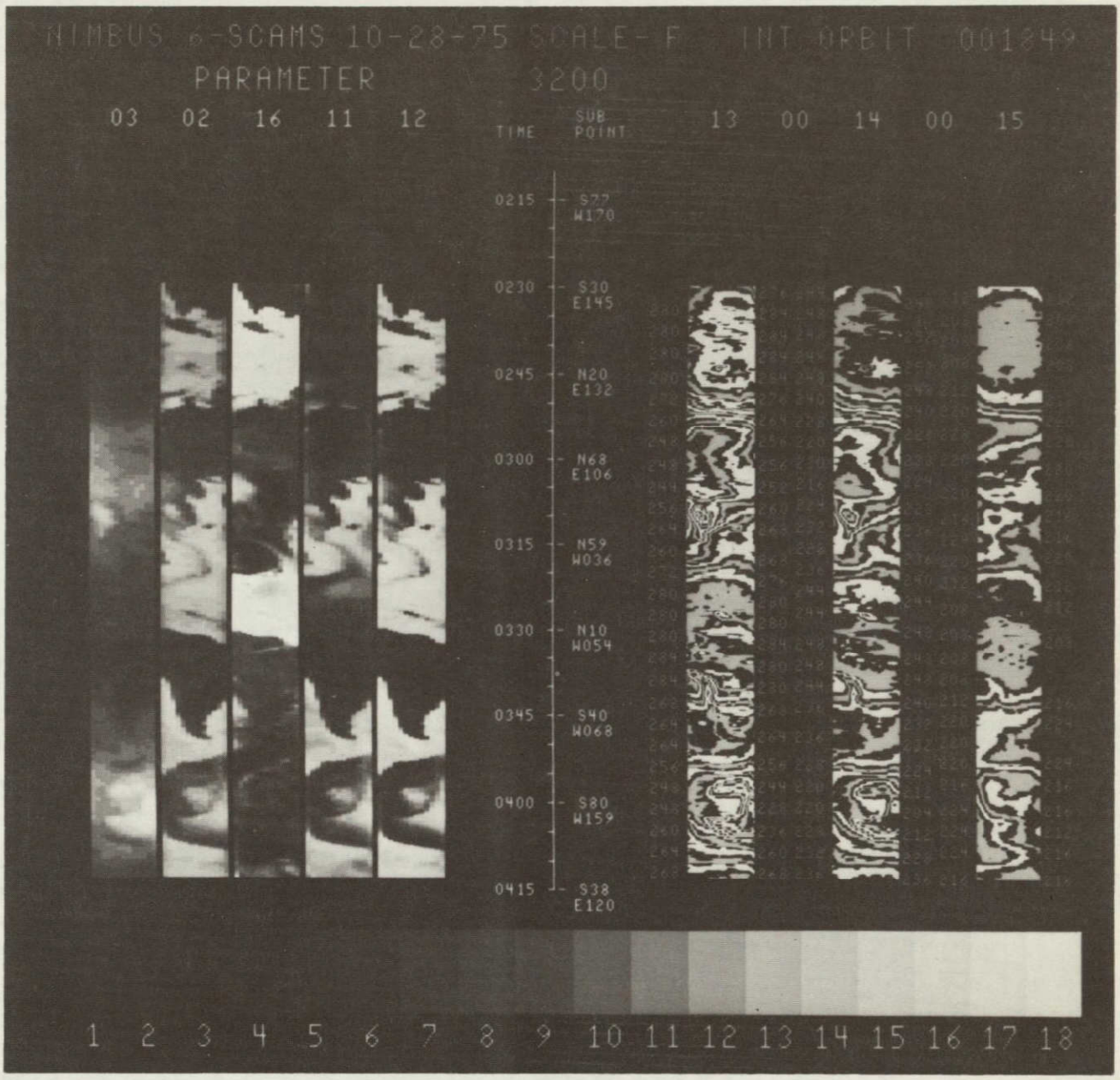
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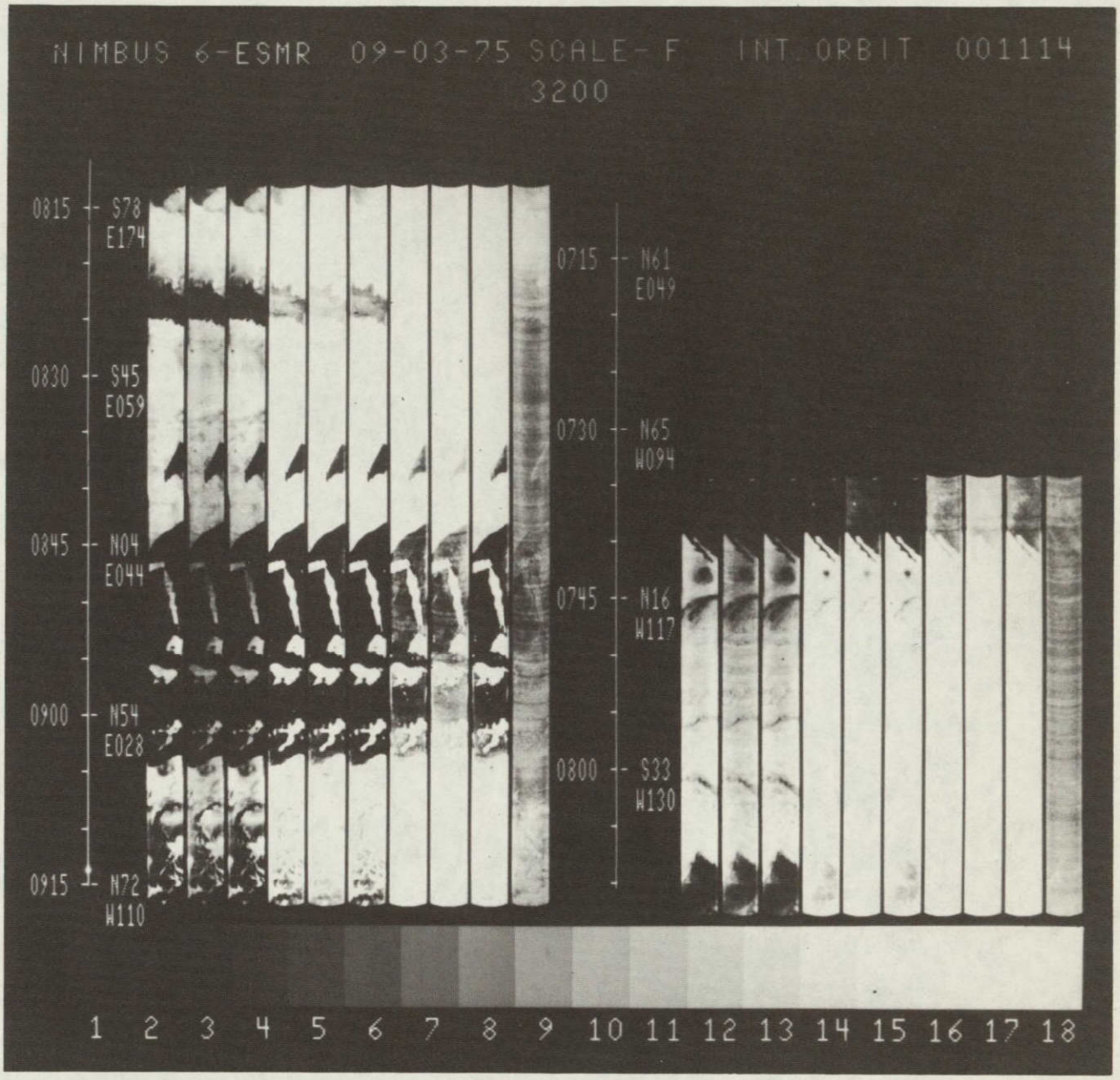


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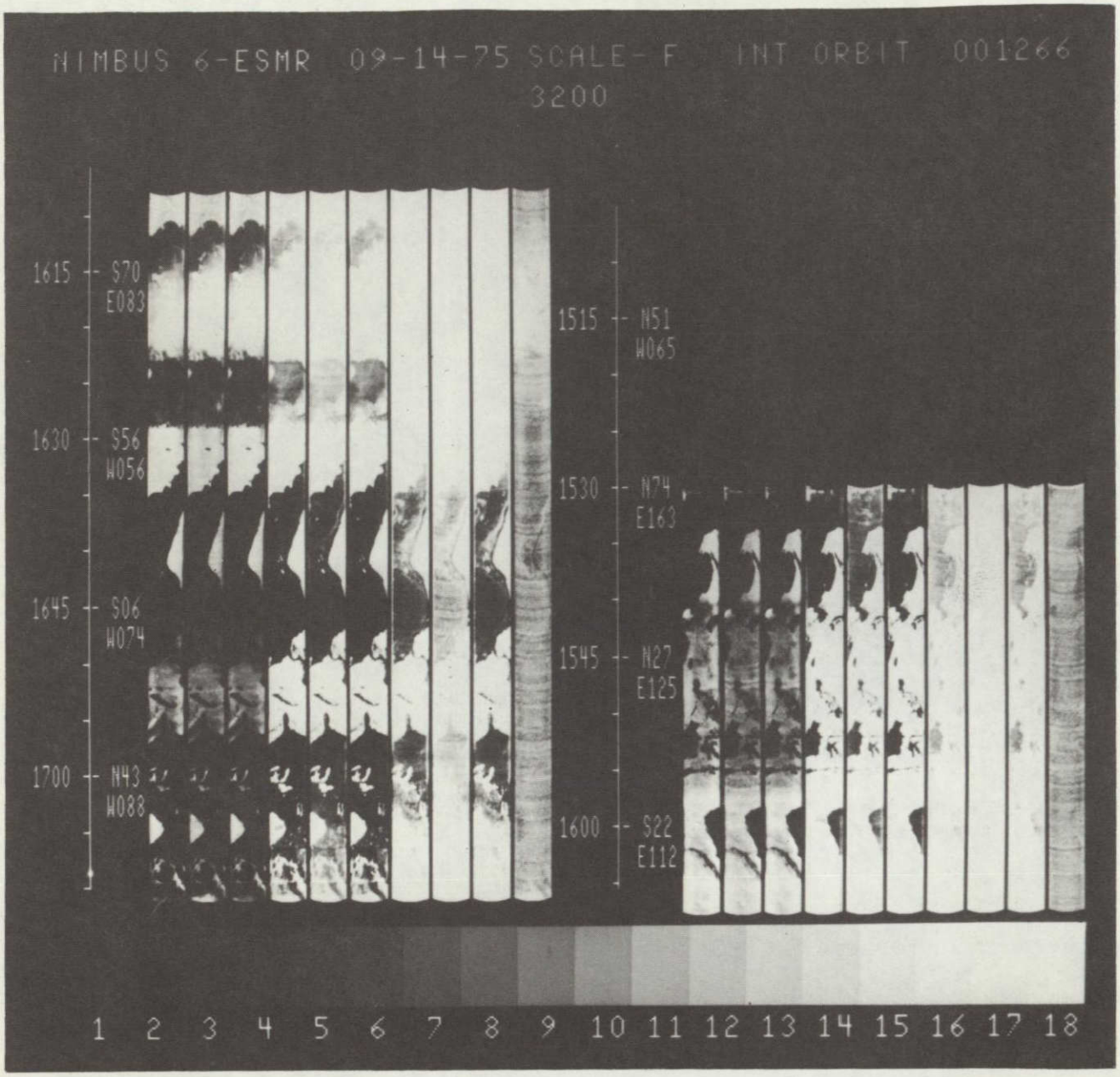
SECTION 3.3

SELECTED ESMR IMAGE DISPLAYS

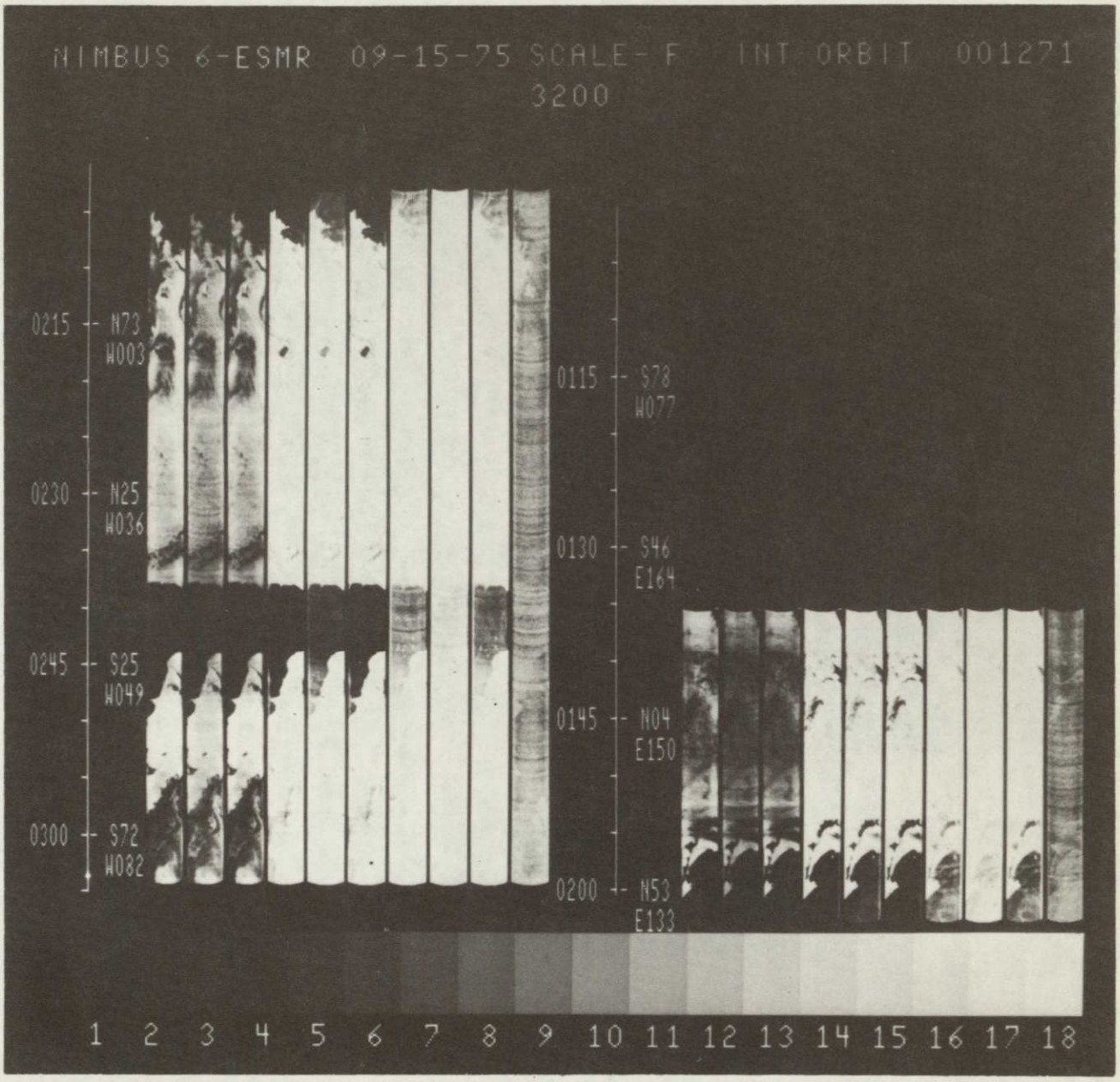
(The same orbits of SCAMS images are shown in Section 3.2.)



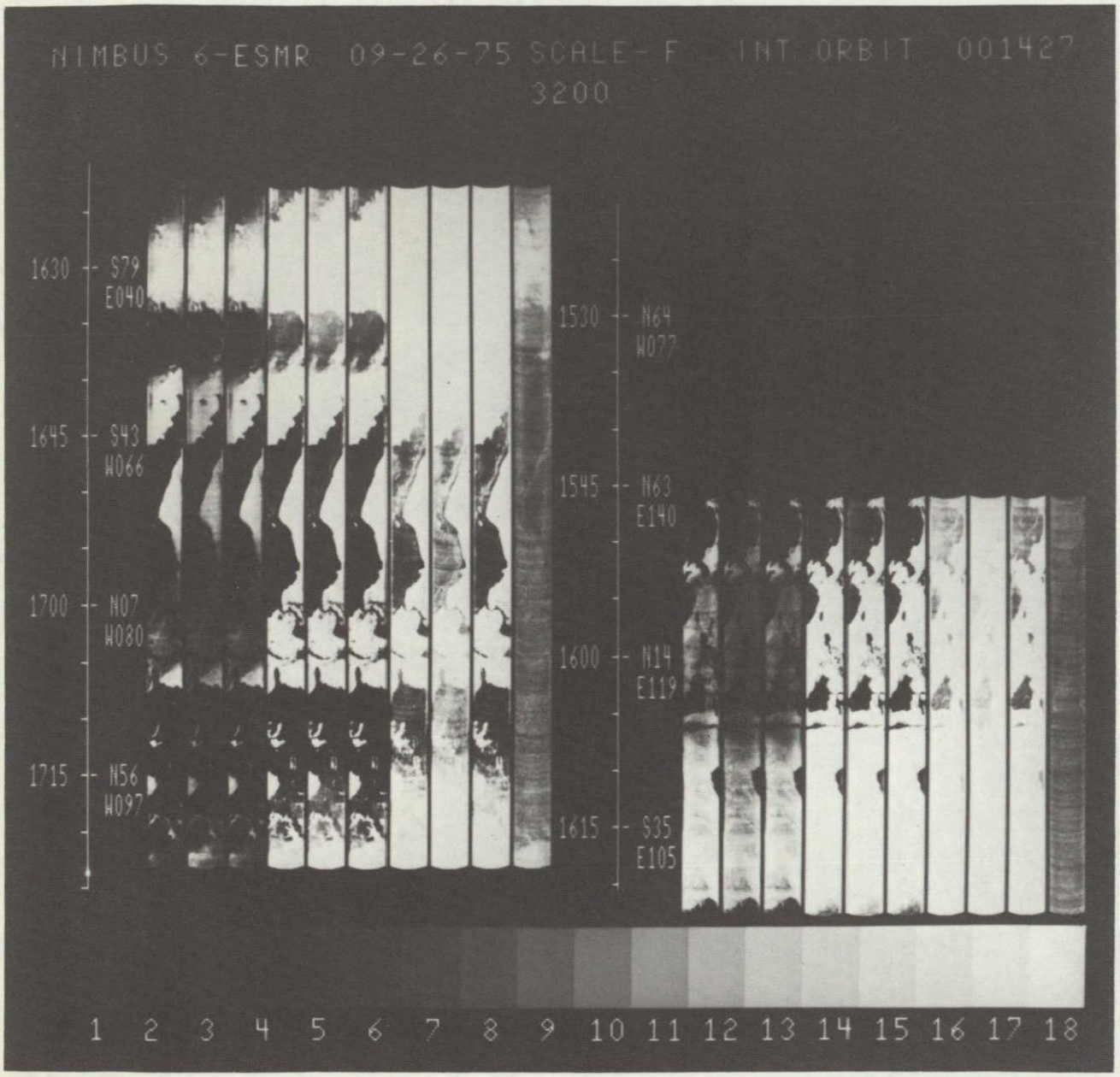
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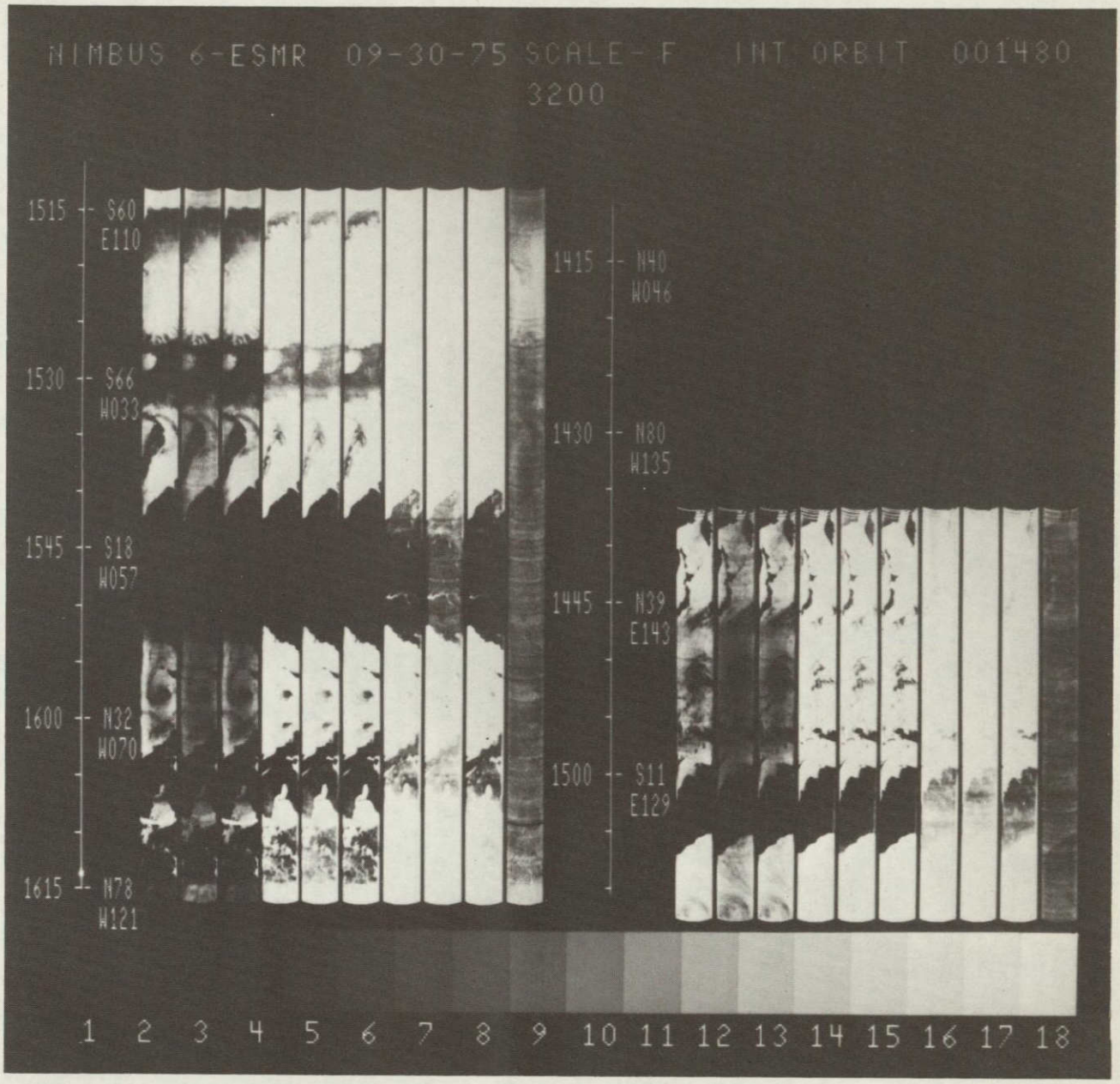


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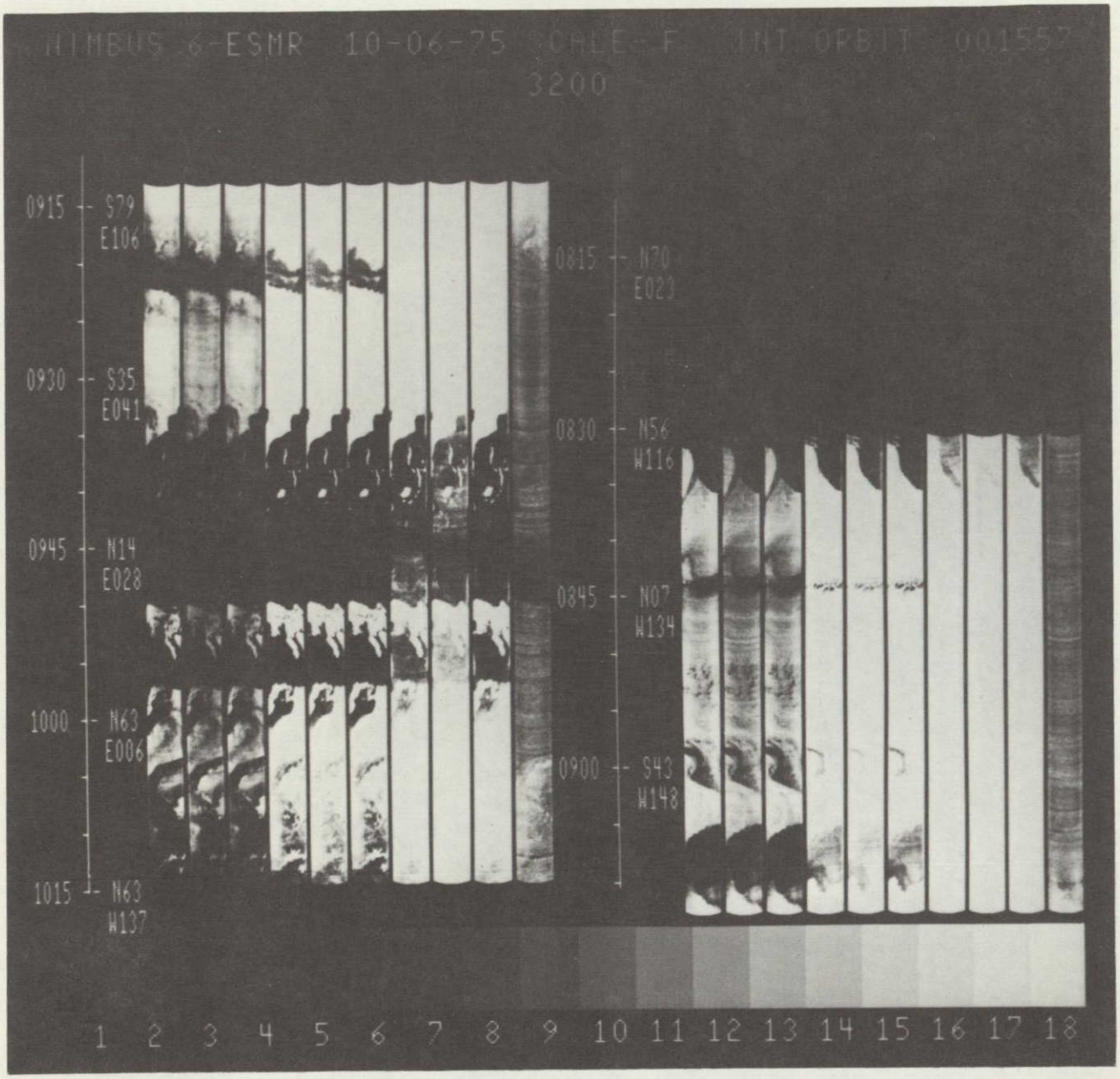


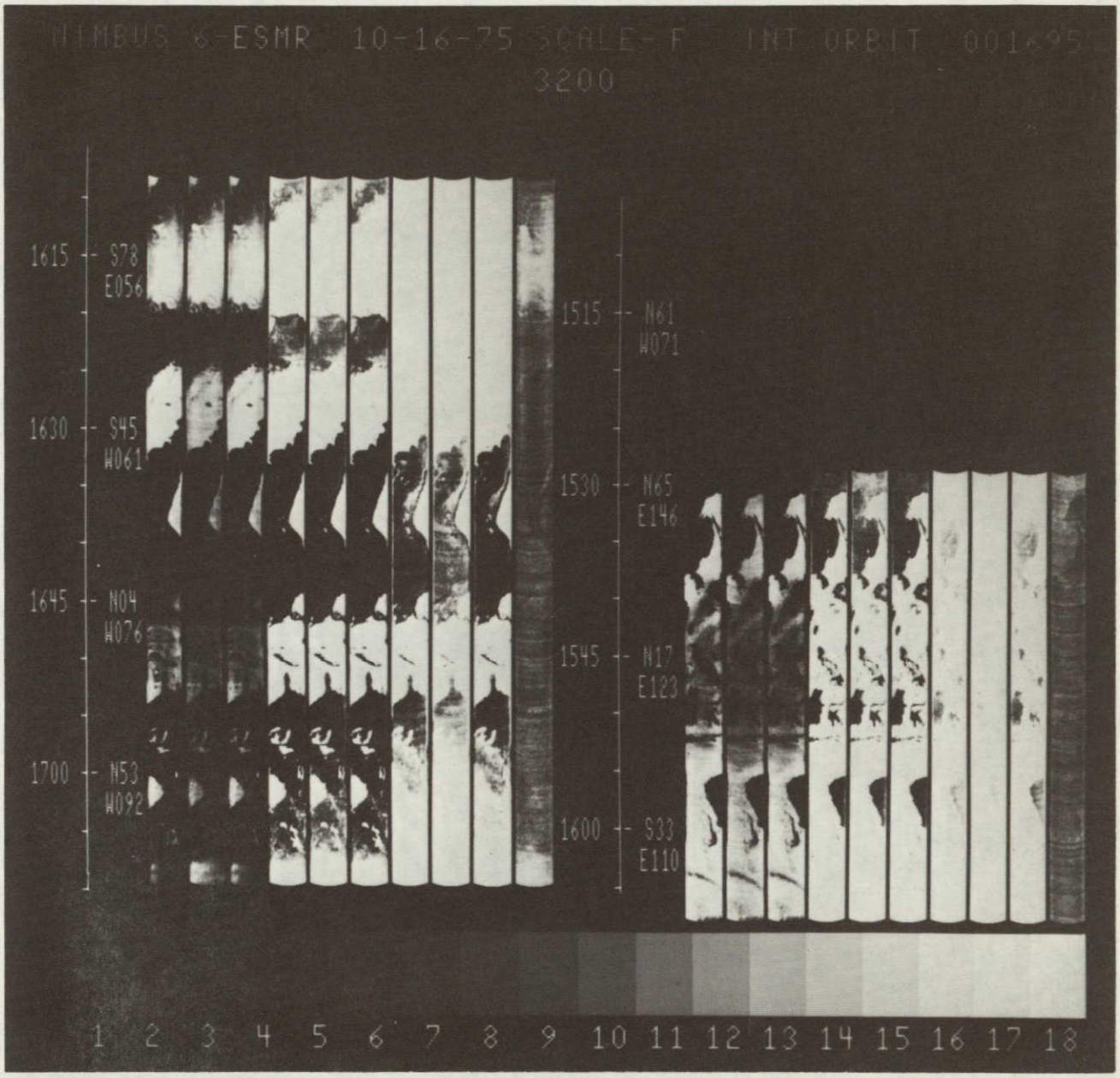
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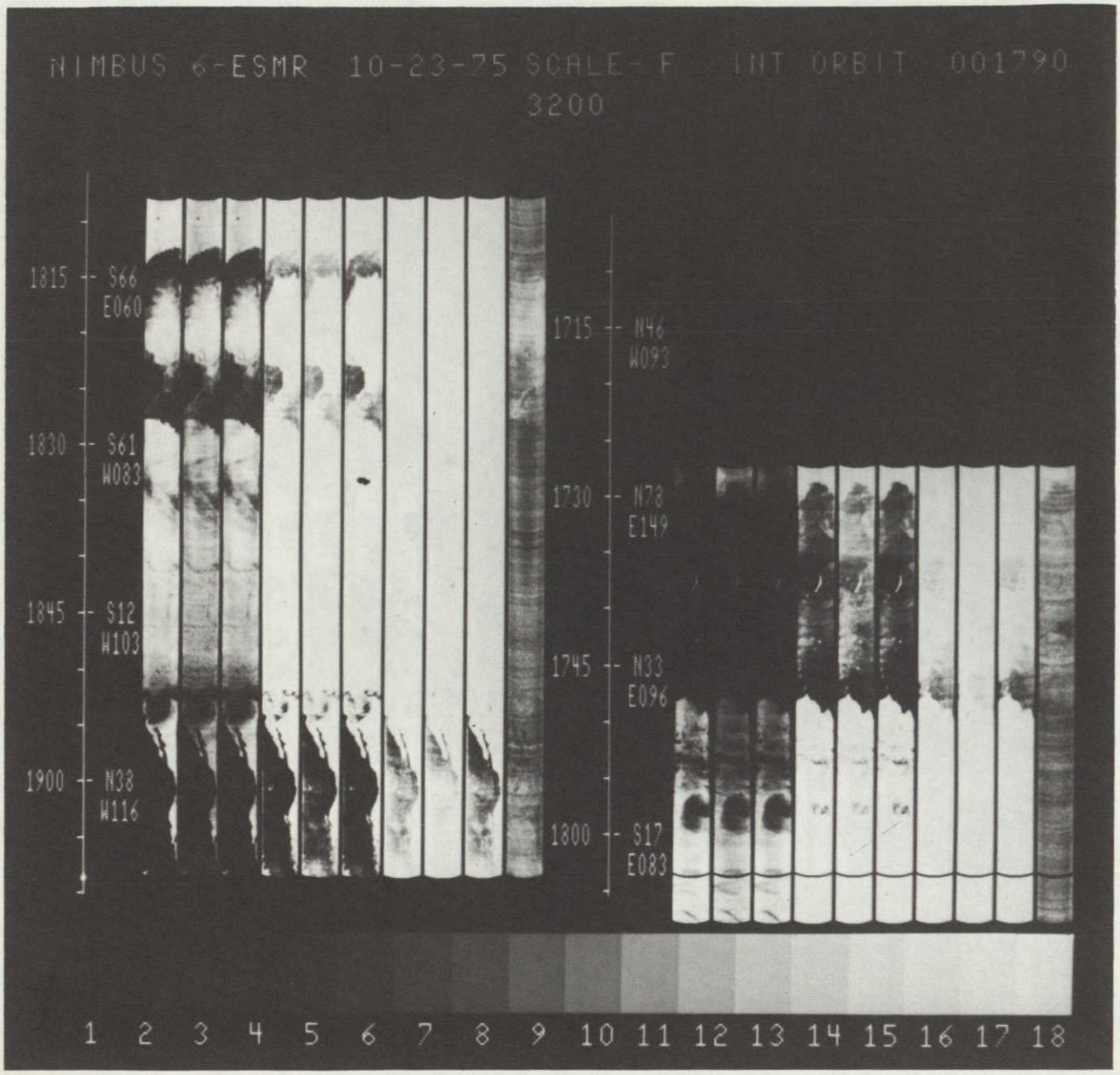
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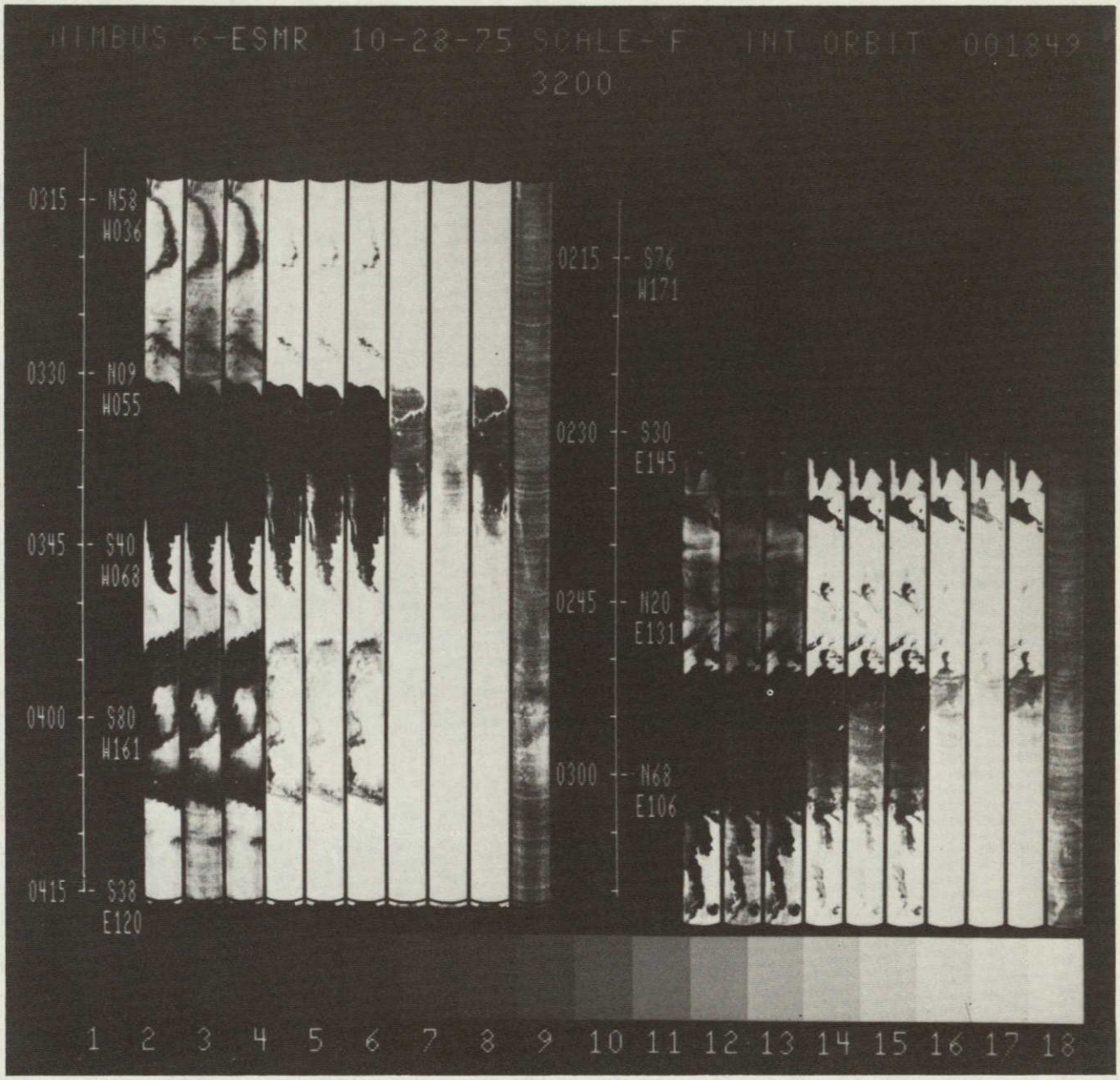




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SECTION 4

TEMPERATURE HUMIDITY INFRARED RADIOMETER MONTAGES

The Nimbus 6 Temperature Humidity Infrared Radiometer (THIR) subsystem is of the same design and operation as the THIR flown on Nimbus 4 and 5. The two-channel scanning radiometer measures earth radiation in two spectral bands. A 10.3 μm to 12.5 μm (11.5 μm) window channel provides an image of the cloud cover, and temperatures of the cloud tops, land, and ocean surfaces. A 6.5 μm to 7.1 μm (6.7 μm) channel provides information on the moisture content of the upper troposhere and stratosphere, and the location of jet streams and frontal systems. Ground resolution at the satellite subpoint is 8.2 km for the 11.5 μm channel and 22.5 km for the 6.7 μm channel. Both channels operate continuously to provide day and night global coverage. However, with only HDRSS recorder (A) available for full-time use on the satellite, gaps in global coverage occur over "blind" orbit areas, and sometimes over the Rosman and Alaska STDN stations, when the tape data is being transmitted to the ground. The blind orbits occur during a daytime pass over the western part of the Pacific Ocean and during a nighttime pass over the eastern part of the Atlantic Ocean. These blind orbit areas happen when the Orroral, Australia is not available for playback of recorded data. Then the time between successive playbacks of the tape recorder becomes longer than the record capability of the good HDRSS A plus the reduced capability of HDRSS B.

This section pictorially documents the data from the THIR. Section 4.1 contains all nighttime THIR 11.5 μm and 6.7 μm montages and Section 4.2 contains all daytime THIR 11.5 μm and 6.7 μm montages, arranged in chronological order. Key latitudes can be read from the superposed grids. Grid points are identified where each swath crosses 60°N, 30°N, EQUATOR, 30°S and 60°S.

Vellum Location Guide overlays, attached to the back of this document, are to be used for general orientation with the data presented in each THIR montage. Proper alignment of the overlay grid is accomplished by matching the grid indices on the equator with the two "T" marks on each montage.

THIR photographic data and/or digital data can be ordered through the National Space Science Data Center (NSSDC), Code 601, Goddard Space Flight Center, Greenbelt, Maryland 20771.

THIR photographic data consist of 70 mm film strips produced from the radiometer output signals. The gray shades in each image correspond to temperature variations of the land, sea, and clouds. On a film positive the lightest tones represent cold temperatures, while the darkest tones represent warm temperatures. THIR photographic data are archived in separate 6.7 μm and 11.5 μm daytime and nighttime swaths. The approximate coverage of a full swath is from pole to pole.

When ordering THIR photographic data from NSSDC the following information should be given:

- Satellite (e.g. Nimbus 6)
- Date of data
- Data orbit number, channel (11.5 m or 6.7 m), and whether day or night data
- Data format, i.e., positive or negative transparencies, or prints
- Area of interest defined by latitude and longitude

In addition to the THIR film strips, photographic copies of the daily day or night montages prepared from film strips can be obtained.

Quantitative digital data are obtained when the original analog signals are digitized with full fidelity, and processed by an IBM 360 computer, where calibration and geographic referencing are applied. Each reduced radiation data tape prepared by the IBM 360 is called a Nimbus Meteorological Radiation Tape-THIR (NMRT-THIR). The NMRT can be used to generate grid print maps or to accomplish special scientific analyses. The format of this tape may be found in The Nimbus 6 User's Guide, Section 2.

Due to the large volume and the long computer running time required for processing THIR into NMRTs, Nimbus 6 THIR digital data are not routinely reduced to final NMRT format. Only those data which are specifically requested by the user will be processed. Requests should be made through NSSDC. It is anticipated that requested NMRT-THIR will begin to be available through NSSDC six months after launch. The user is urged to make full use of the film strips which are abundantly available in nearly real time from the NSSDC.

A series of programs at GSFC produce printed and contoured data referenced to a grid on Polar Stereographic or Mercator map bases. These are called grid print maps. The advantages of the grid print map presentation are the display of absolute values of temperatures in their approximate location and geographical rectification of the data. Grid print maps may be produced for either a single orbit or a composite of several orbits. The following standard options are available and should be specified when requesting grid print maps from NSSDC.

- Map and Approximate Scale
 a. Polar Stereographic, 1:30 million
 b. Polar Stereographic, 1:10 million

c. Multi-resolution Mercator maps are available down to 1:1 million scale.

- Maximum Scan Angle (50 degrees is practical limit)

- Field Values and Contouring. Unless otherwise specified, all maps will include field values and contouring except Mercator maps of scales larger than 1:20 million. A data population map, indicating the number of individual measurements contained in each grid point average, as well as a latitude-longitude description for geographically locating the data, will be provided along with each grid print map.

When ordering grid print map data, the following identifying information should be given:

- Satellite (e.g., Nimbus 6)

- Sensor (THIR)

- Channel (6.7 μm or 11.7 μm)

- Data Orbit Number

- Calendar Date of Equator Crossing

- Beginning and ending Times of Data in GMT

- Latitude and Longitude Limits of Area of Interest

- Map Type and map scale

- Scan angle limits

- Contouring or no contouring of data points

When ordering NMRTs, the "Calendar Date of Equator Crossing" and "Map type and map scale" can be omitted.

Beginning and ending times of data in GMT can be interpolated using Table 4-1 which gives the elapsed time from either ascending or descending node as a function of latitude. These elapsed time values can be appropriately added or subtracted from node times given in Table 2-2.

A complete description of the THIR experiment may be found in The Nimbus 6 User's Guide, Section 2.

Table 4-1

Latitude Versus Minutes From
Ascending or Descending Node

Latitude from AN or DN	Minutes and Seconds from AN or DN
0	0:00
5	1:31
10	3:02
15	4:33
20	6:03
25	7:34
30	9:05
35	10:36
40	12:08
45	13:40
50	15:12
55	16:44
60	18:18
65	19:52
70	21:33
75	23:26
78	24:44
80.1	26:49
78	29:00
75	30:09
70	31:51
65	33:35

SECTION 4.1

TEMPERATURE HUMIDITY INFRARED RADIOMETER

NIGHTTIME MONTAGES

1095 1094 1093 1092 1091 1090 1089 1088 1087 1086 1085 1084 1083

1 SEPTEMBER 1975

11.5 μm

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1095 1094 1093 1092 1091 1090 1089 1088 1087 1086 1085 1084 1083

1 SEPTEMBER 1975

6.7 μm

1109 1108 1107 1106 1105 1104 1103 1102 1101 1100 1099 1098 1097 1096

2 SEPTEMBER 1975

11.5 μm

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1109 1108 1107 1106 1105 1104 1103 1102 1101 1100 1099 1098 1097 1096

2 SEPTEMBER 1975

6.7 μm

ORIGINAL PAGE IS
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1122 1121 1120 1119 1118 1117 1116 1115 1114 1113 1112 1111 1110

3 SEPTEMBER 1975

11.5 μm

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ORIGINAL PAGE IS
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1122 1121 1120 1119 1118 1117 1116 1115 1114 1113 1112 1111 1110

3 SEPTEMBER 1975

6.7 μm

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1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135

4 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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1135 1134 1133 1132 1131 1130 1129 1128 1127 1126 1125 1124 1123

4 SEPTEMBER 1975

6.7 μm

1149 1148 1147 1146 1145 1144 1143 1142 1141 1140 1139 1138 1137 1136

5 SEPTEMBER 1975

11.5 μm

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1149 1148 1147 1146 1145 1144 1143 1142 1141 1140 1139 1138 1137 1136

5 SEPTEMBER 1975

6.7 μm

1162 1161 1160 1159 1158 1157 1156 1155 1154 1153 1152 1151 1150

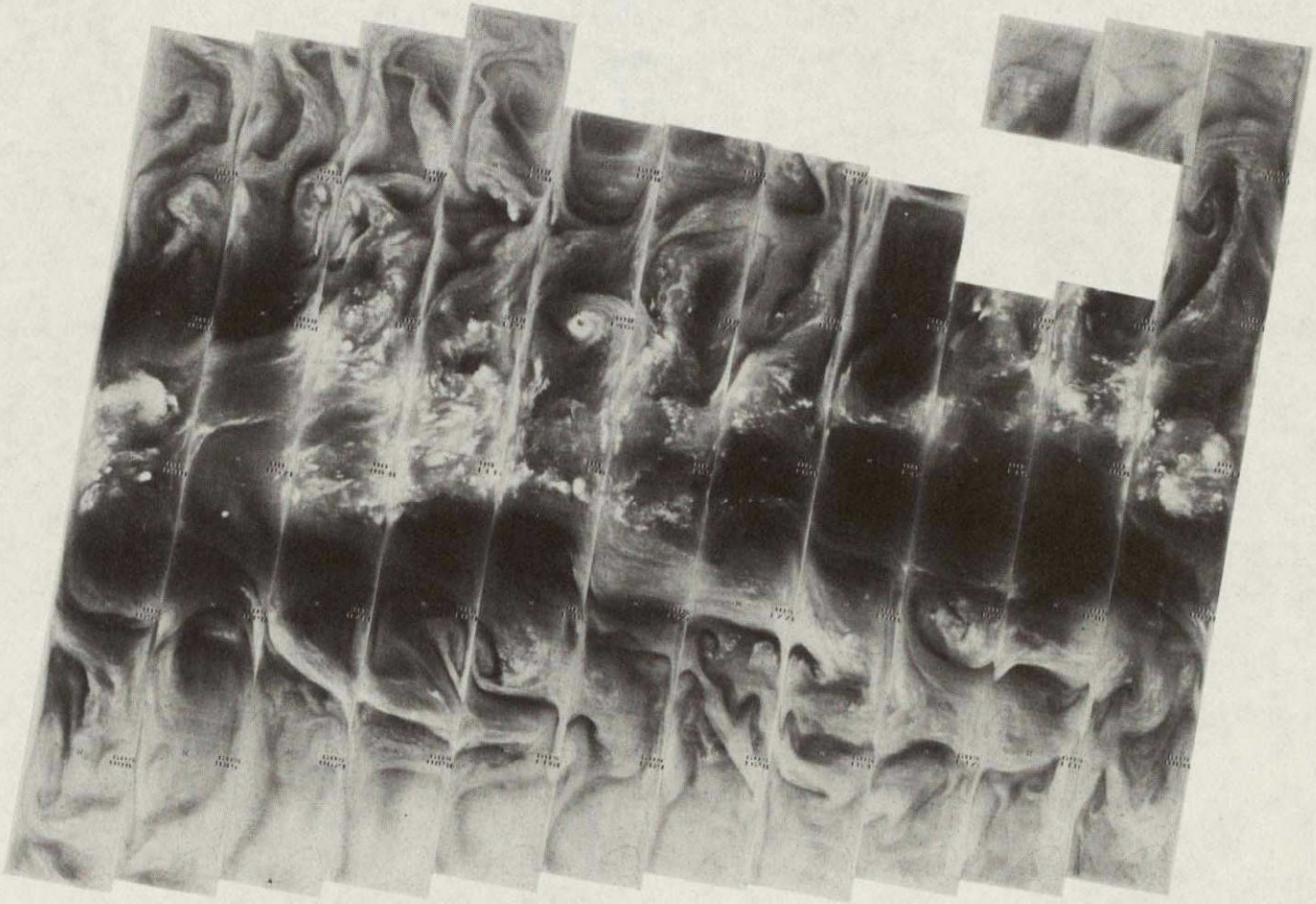
6 SEPTEMBER 1975

11.5 μm

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S-2

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1162 1161 1160 1159 1158 1157 1156 1155 1154 1153 1152 1151 1150

6 SEPTEMBER 1975

6.7 μm

1176 1175 1174 1173 1172 1171 1170 1169 1168 1167 1166 1165 1164 1163

7 SEPTEMBER 1975

11.5 μm

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ORIGINAL PAGE IS
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1176 1175 1174 1173 1172 1171 1170 1169 1168 1167 1166 1165 1164 1163

7 SEPTEMBER 1975

6.7 μm

ORIGINAL PAGE IS
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1189 1188 1187 1186 1185 1184 1183 1182 1181 1180 1179 1178 1177

8 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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1189 1188 1187 1186 1185 1184 1183 1182 1181 1180 1179 1178 1177

8 SEPTEMBER 1975

6.7 μm

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1202 1201 1200 1199 1198 1197 1196 1195 1194 1193 1192 1191 1190

9 SEPTEMBER 1975

6.7 μm

1216 1215 1214 1213 1212 1211 1210 1209 1208 1207 1206 1205 1204 1203

10 SEPTEMBER 1975

11.5 μm

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1216 1215 1214 1213 1212 1211 1210 1209 1208 1207 1206 1205 1204 1203

10 SEPTEMBER 1975

6.7 μm

1229 1228 1227 1226 1225 1224 1223 1222 1221 1220 1219 1218 1217

11 SEPTEMBER 1975

11.5 μm

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ORIGINAL PAGE IS
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1229 1228 1227 1226 1225 1224 1223 1222 1221 1220 1219 1218 1217

11 SEPTEMBER 1975

6.7 μm

1243 1242 1241 1240 1239 1238 1237 1236 1235 1234 1233 1232 1231 1230

12 SEPTEMBER 1975

11.5 μm

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1243 1242 1241 1240 1239 1238 1237 1236 1235 1234 1233 1232 1231 1230

12 SEPTEMBER 1975

6.7 μm

1256 1255 1254 1253 1252 1251 1250 1249 1248 1247 1246 1245 1244

13 SEPTEMBER 1975

11.5 μm

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1256 1255 1254 1253 1252 1251 1250 1249 1248 1247 1246 1245 1244

13 SEPTEMBER 1975

6.7 μm

1270 1269 1268 1267 1266 1265 1264 1263 1262 1261 1260 1259 1258 1257

14 SEPTEMBER 1975

11.5 μm

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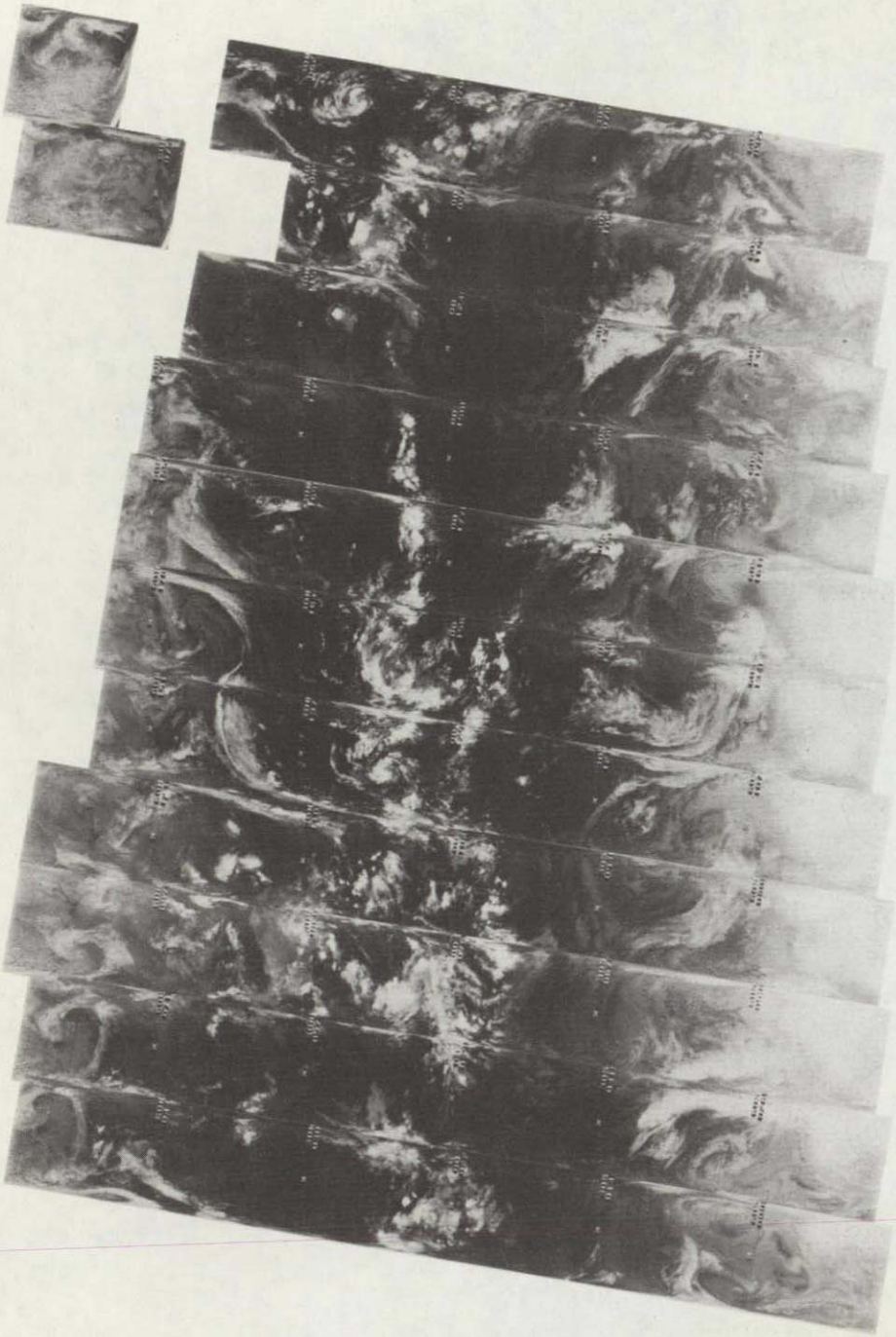
ORIGINAL PAGE IS
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1270 1269 1268 1267 1266 1265 1264 1263 1262 1261 1260 1259 1258 1257

14 SEPTEMBER 1975

6.7 μm

ORIGINAL PAGE IS
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1283 1282 1281 1280 1279 1278 1277 1276 1275 1274 1273 1272 1271

15 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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1283 1282 1281 1280 1279 1278 1277 1276 1275 1274 1273 1272 1271

15 SEPTEMBER 1975

6.7 μm

1296 1295 1294 1293 1292 1291 1290 1289 1288 1287 1286 1285 1284

16 SEPTEMBER 1975

11.5 μm

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1296 1295 1294 1293 1292 1291 1290 1289 1288 1287 1286 1285 1284

16 SEPTEMBER 1975

6.7 μm

1310 1309 1308 1307 1306 1305 1304 1303 1302 1301 1300 1299 1298 1297

17 SEPTEMBER 1975

11.5 μm

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1310 1309 1308 1307 1306 1305 1304 1303 1302 1301 1300 1299 1298 1297

17 SEPTEMBER 1975

6.7 μm

1323 1322 1321 1320 1319 1318 1317 1316 1315 1314 1313 1312 1311

18 SEPTEMBER 1975

11.5 μm

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1323 1322 1321 1320 1319 1318 1317 1316 1315 1314 1313 1312 1311

18 SEPTEMBER 1975

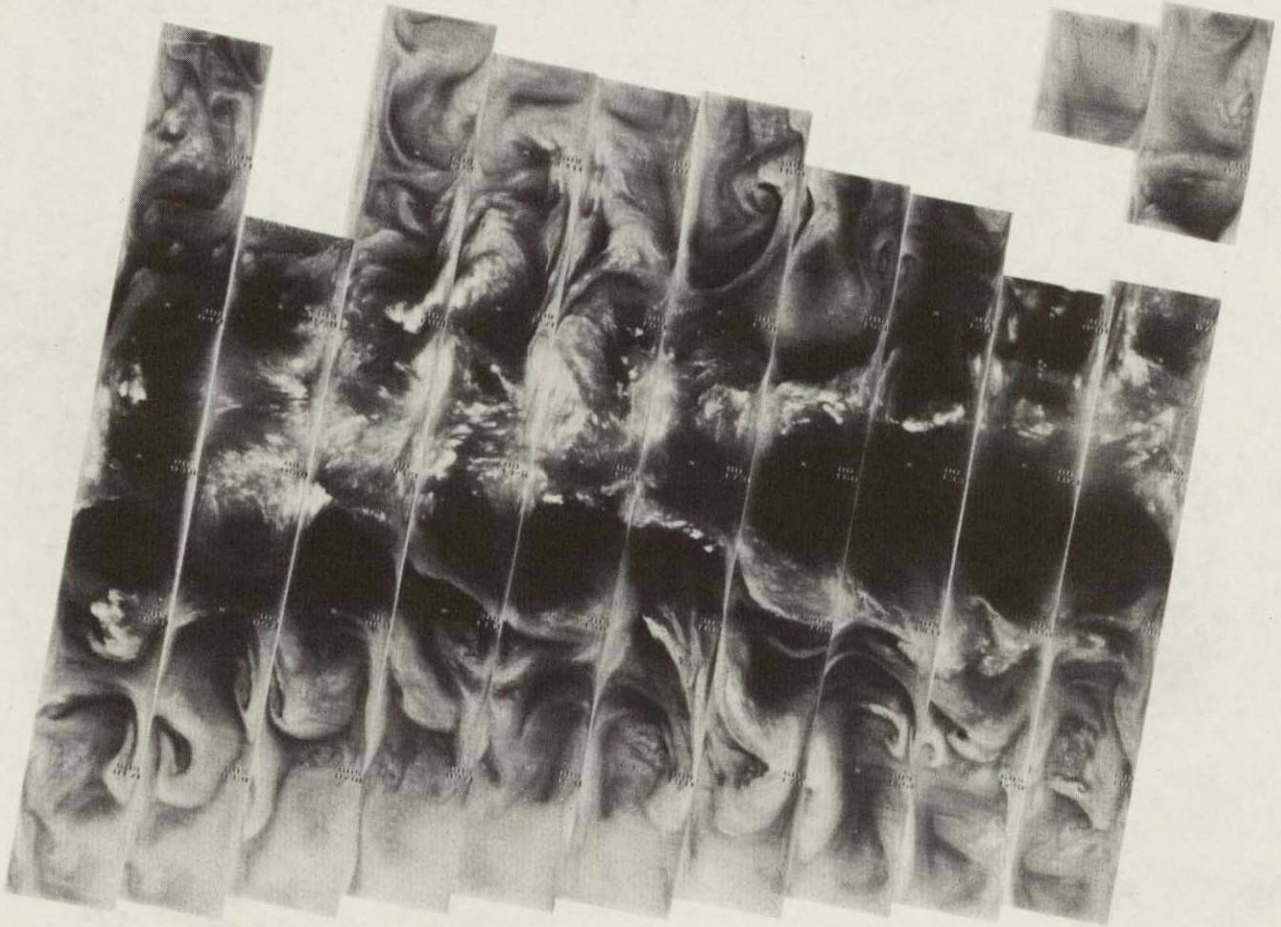
6.7 μm



1337 1336 1335 1334 1333 1332 1331 1330 1329 1328 1327 1326 1325 1324

19 SEPTEMBER 1975

11.5 μm

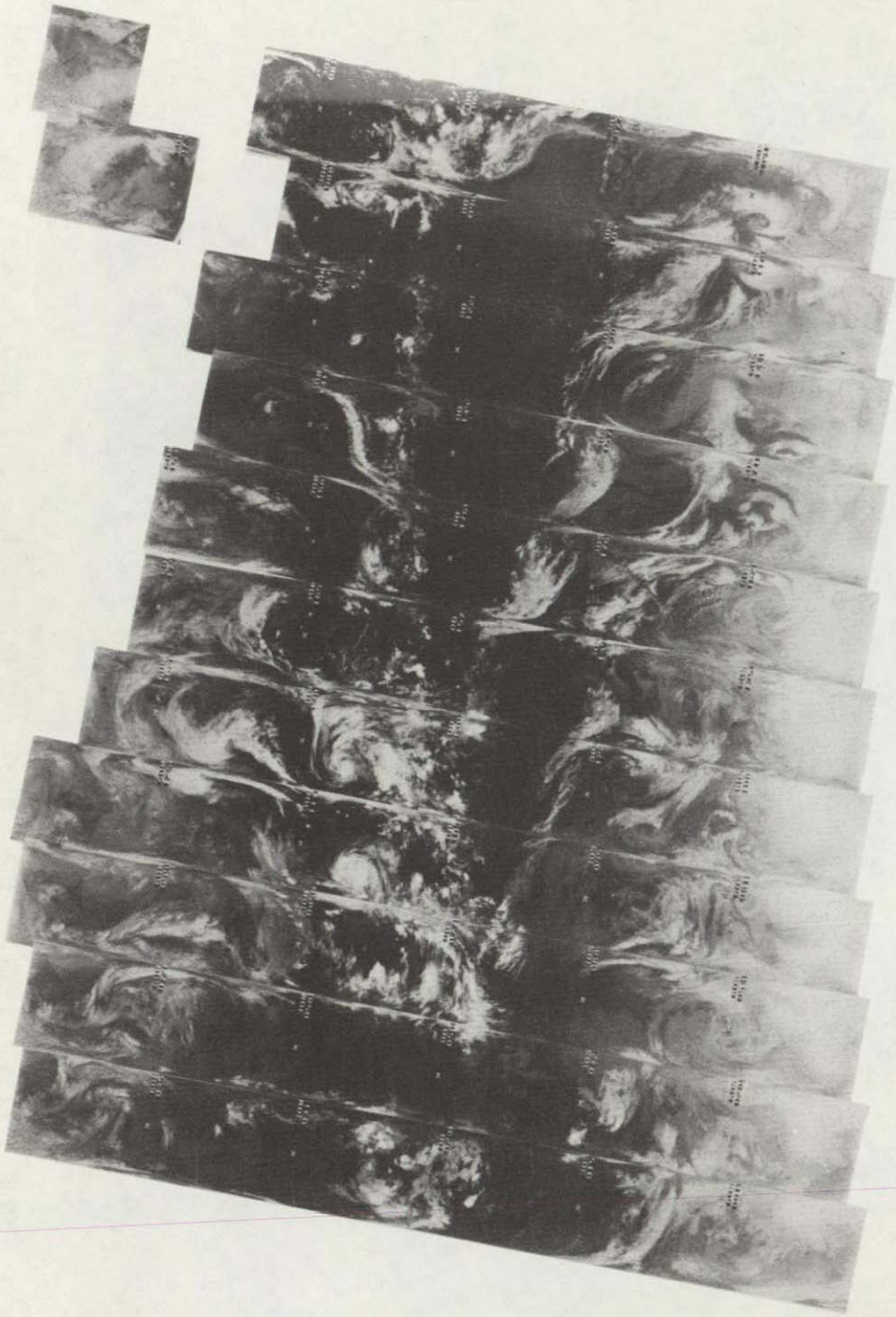


1337 1336 1335 1334 1333 1332 1331 1330 1329 1328 1327 1326 1325 1324

19 SEPTEMBER 1975

6.7 μm

ORIGINAL PAGE IS
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1350 1349 1348 1347 1346 1345 1344 1343 1342 1341 1340 1339 1338

20 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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1350 1349 1348 1347 1346 1345 1344 1343 1342 1341 1340 1339 1338

20 SEPTEMBER 1975

6.7 μm



1363 1362 1361 1360 1359 1358 1357 1356 1355 1354 1353 1352 1351

21 SEPTEMBER 1975

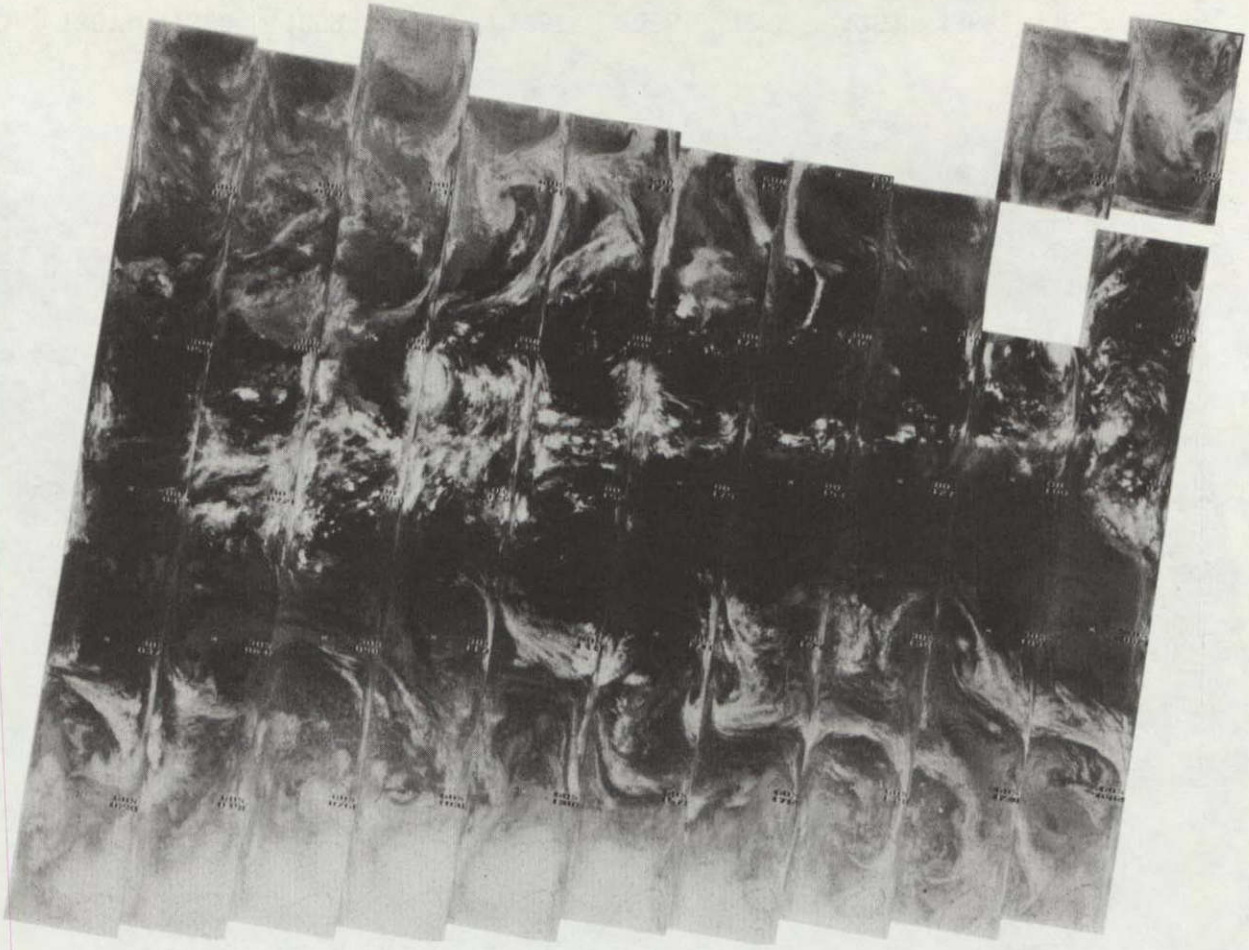
11.5 μm

1363 1362 1361 1360 1359 1358 1357 1356 1355 1354 1353 1352 1351

21 SEPTEMBER 1975

6.7 μm

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1377 1376 1375 1374 1373 1372 1371 1370 1369 1368 1367 1366 1365 1364

22 SEPTEMBER 1975

11.5 μm

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22 SEPTEMBER 1975

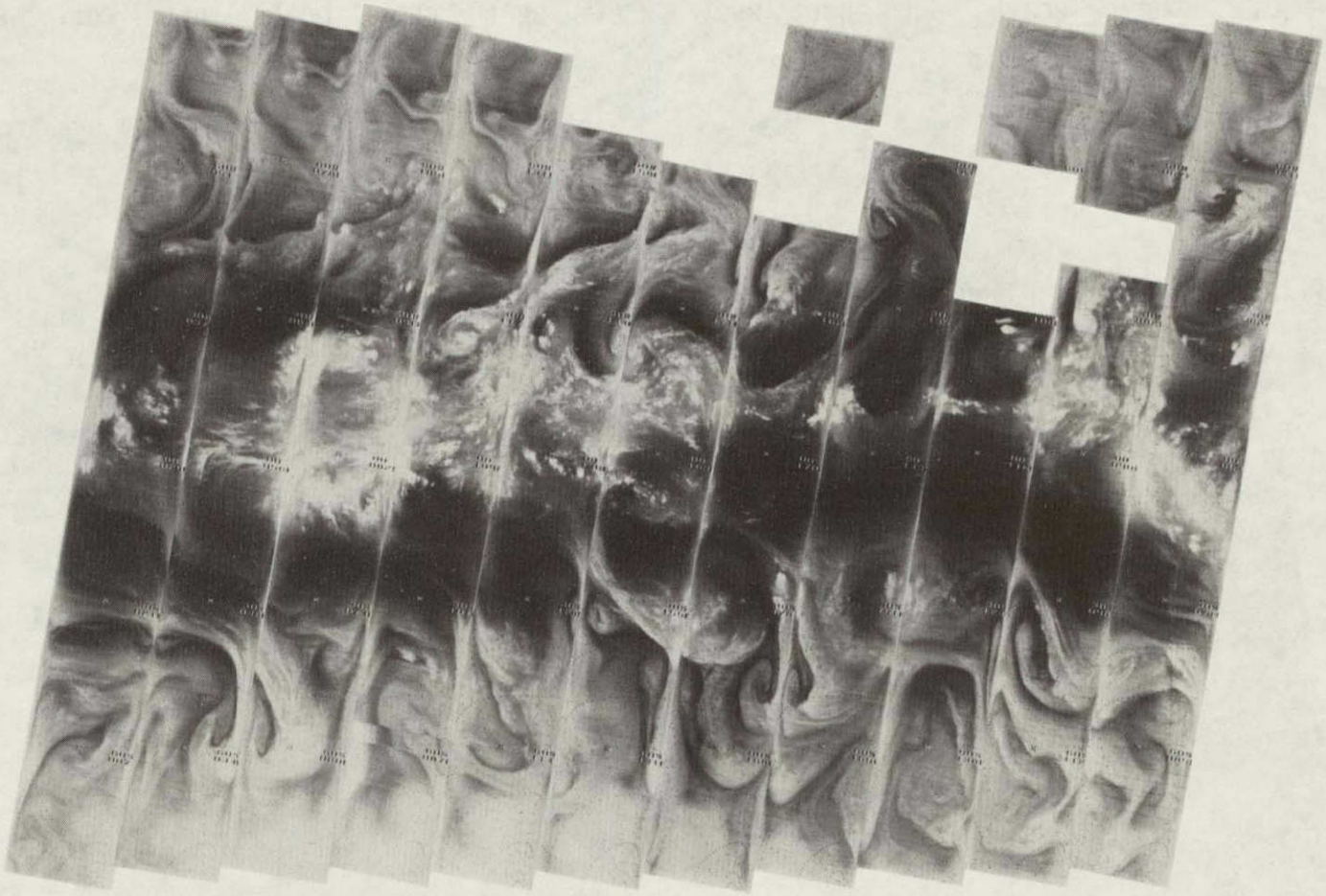
6.7 μm



1390 1389 1388 1387 1386 1385 1384 1383 1382 1381 1380 1379 1378

23 SEPTEMBER 1975

11.5 μm



1390 1389 1388 1387 1386 1385 1384 1383 1382 1381 1380 1379 1378

23 SEPTEMBER 1975

6.7 μm

1404 1403 1402 1401 1400 1399 1398 1397 1396 1395 1394 1393 1392 1391

24 SEPTEMBER 1975

11.5 μm

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1404 1403 1402 1401 1400 1399 1398 1397 1396 1395 1394 1393 1392 1391

24 SEPTEMBER 1975

6.7 μm

1417 1416 1415 1414 1413 1412 1411 1410 1409 1408 1407 1406 1405

25 SEPTEMBER 1975

11.5 μm

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1417 1416 1415 1414 1413 1412 1411 1410 1409 1408 1407 1406 1405

25 SEPTEMBER 1975

6.7 μm

1430 1429 1428 1427 1426 1425 1424 1423 1422 1421 1420 1419 1418

26 SEPTEMBER 1975

11.5 μm

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1430 1429 1428 1427 1426 1425 1424 1423 1422 1421 1420 1419 1418

26 SEPTEMBER 1975

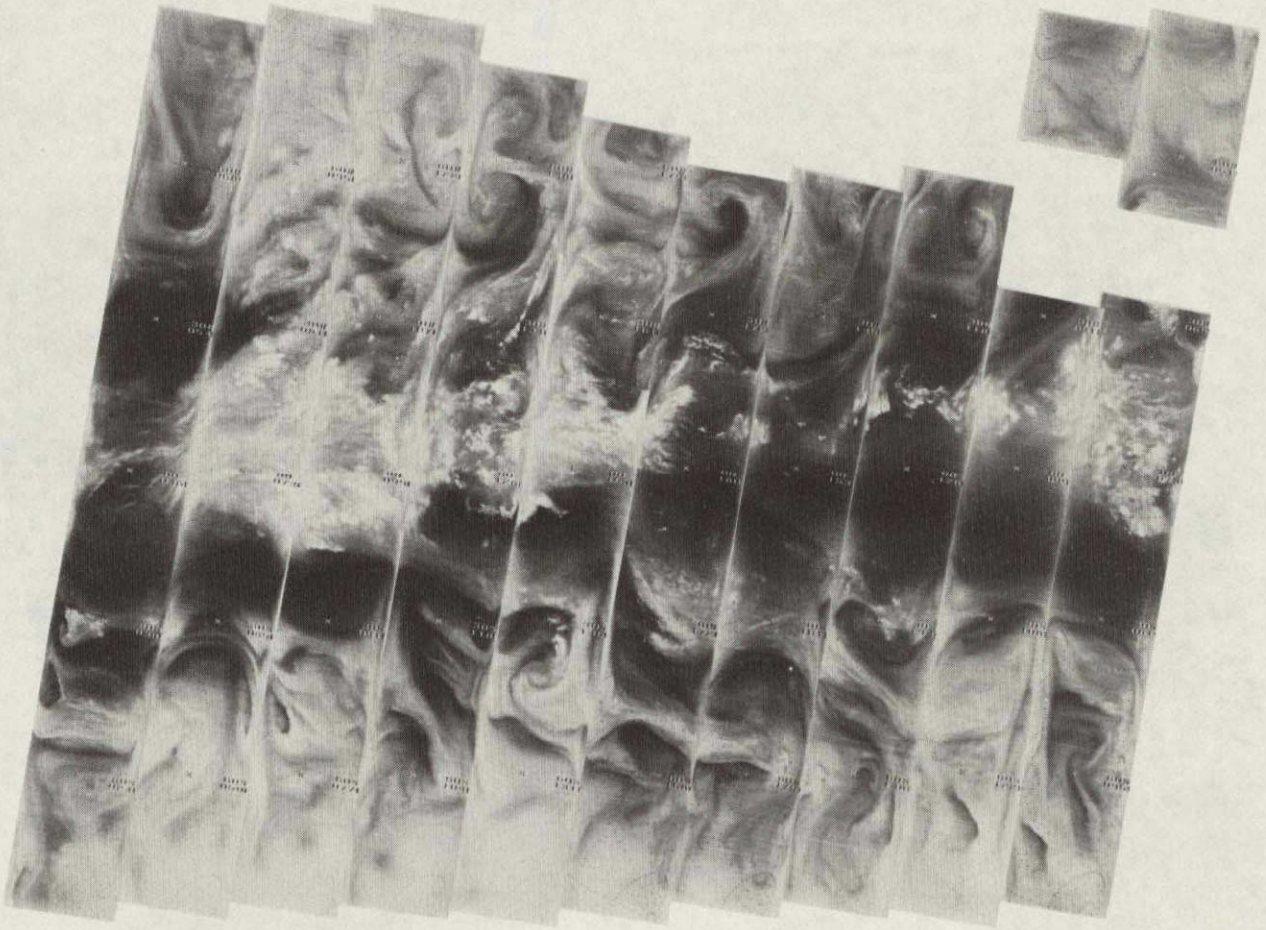
6.7 μm



1444 1443 1442 1441 1440 1439 1438 1437 1436 1435 1434 1433 1432 1431

27 SEPTEMBER 1975

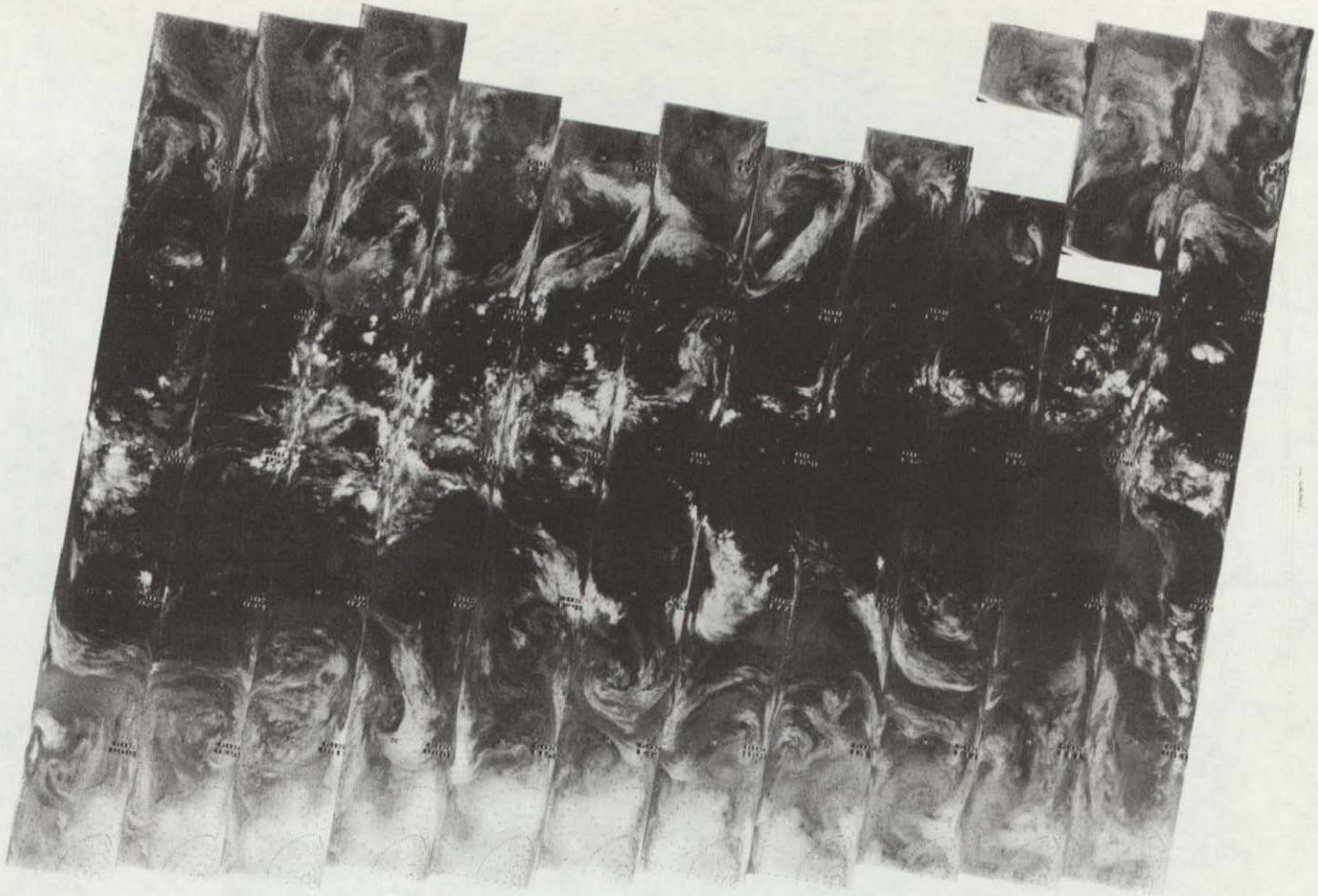
11.5 μm



1444 1443 1442 1441 1440 1439 1438 1437 1436 1435 1434 1433 1432 1431

27 SEPTEMBER 1975

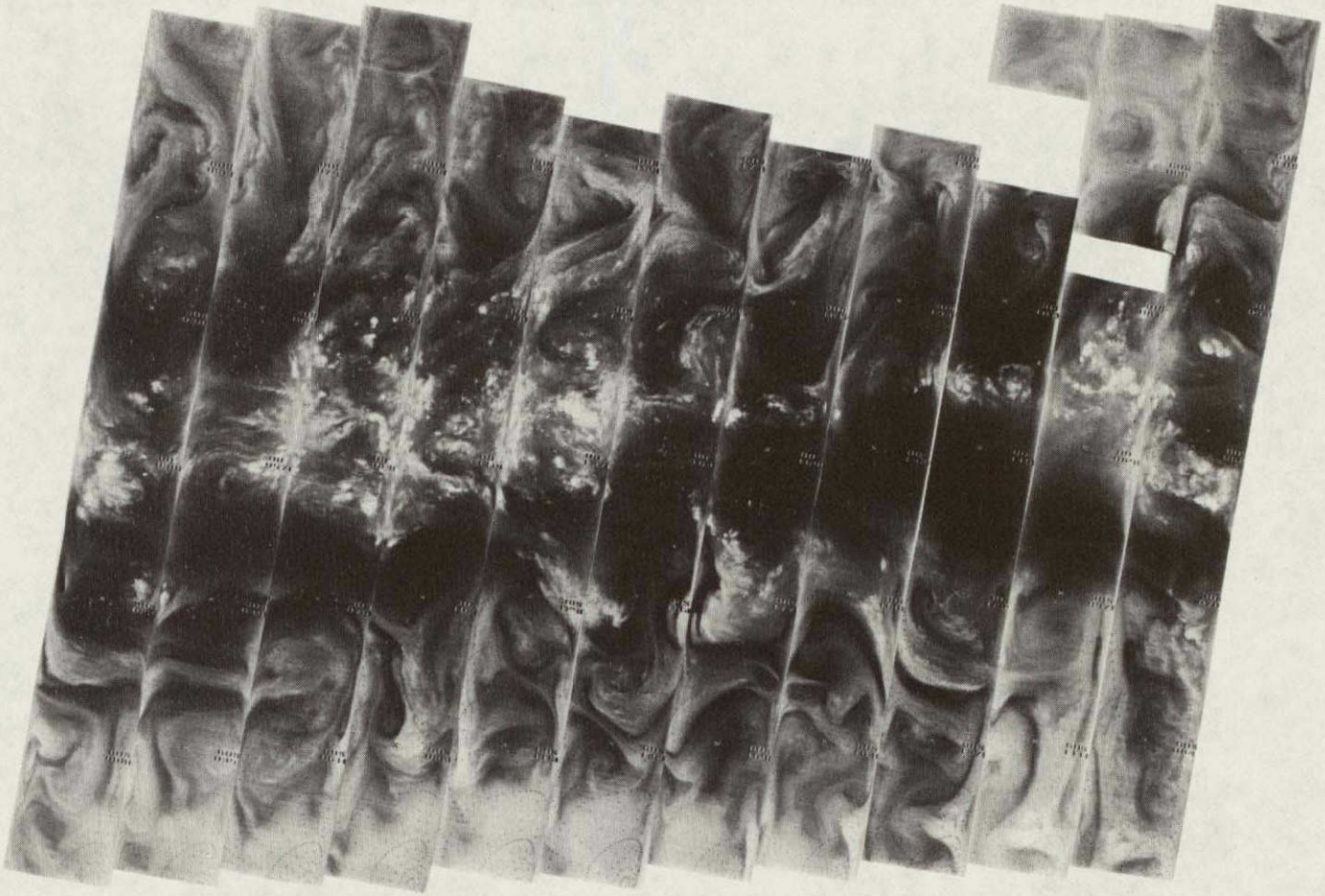
6.7 μm



1457 1456 1455 1454 1453 1452 1451 1450 1449 1448 1447 1446 1445

28 SEPTEMBER 1975

11.5 μm



1457 1456 1455 1454 1453 1452 1451 1450 1449 1448 1447 1446 1445

28 SEPTEMBER 1975

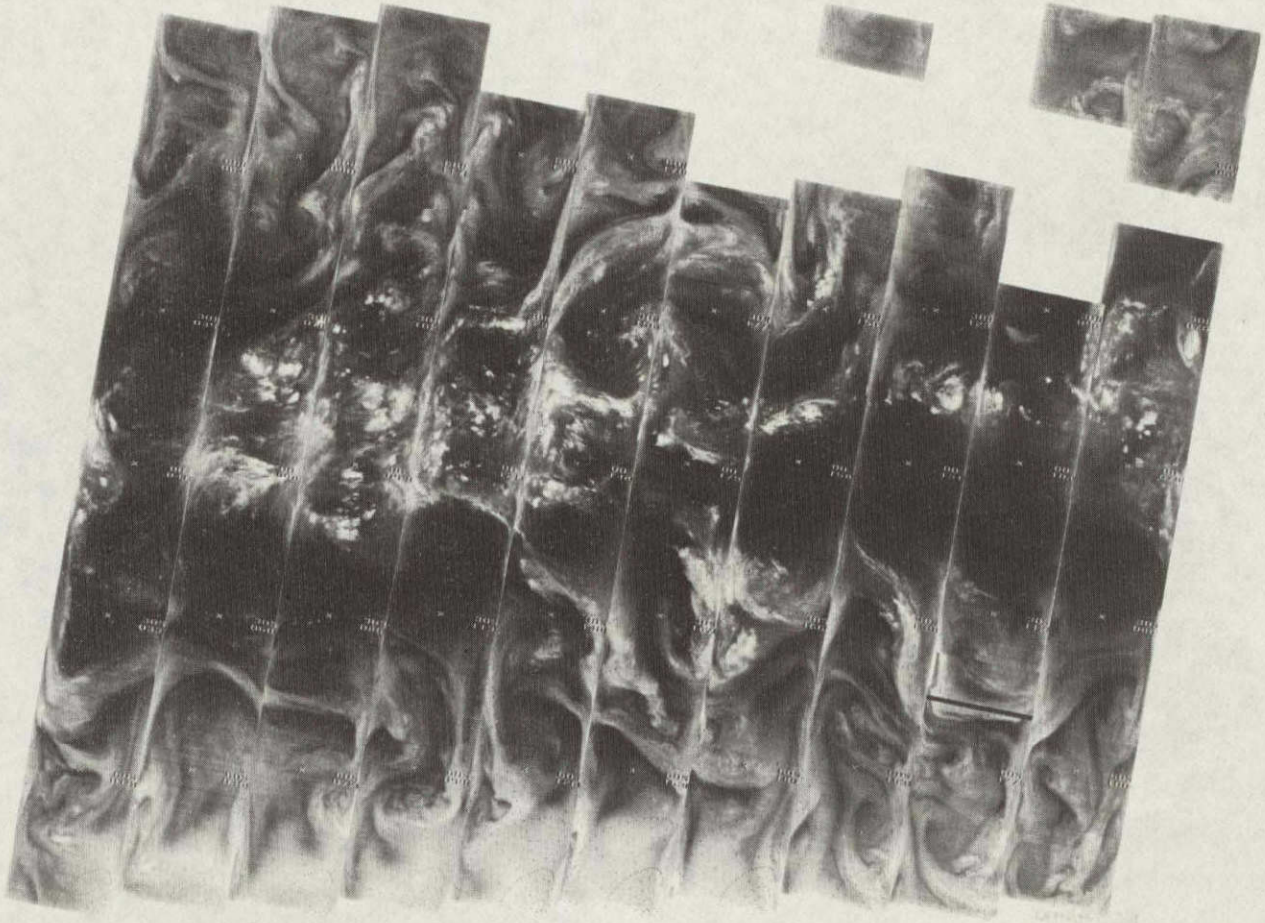
6.7 μm



1471 1470 1469 1468 1467 1466 1465 1464 1463 1462 1461 1460 1459 1458

29 SEPTEMBER 1975

11.5 μm



1471 1470 1469 1468 1467 1466 1465 1464 1463 1462 1461 1460 1459 1458

29 SEPTEMBER 1975

6.7 μm

1484 1483 1482 1481 1480 1479 1478 1477 1476 1475 1474 1473 1472

30 SEPTEMBER 1975

11.5 μm

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1484 1483 1482 1481 1480 1479 1478 1477 1476 1475 1474 1473 1472

30 SEPTEMBER 1975

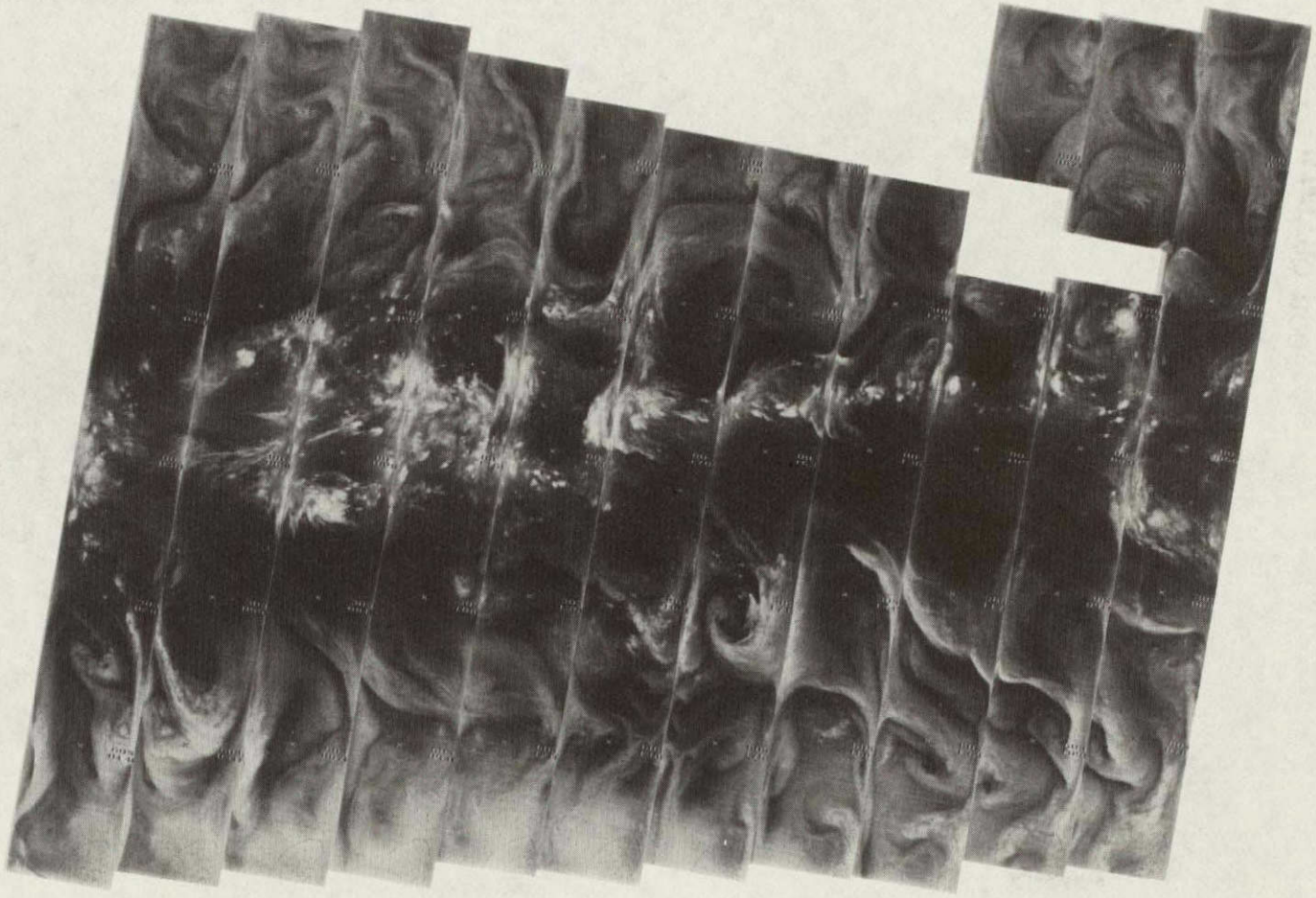
6.7 μm



1497 1496 1495 1494 1493 1492 1491 1490 1489 1488 1487 1486 1485

1 OCTOBER 1975

11.5 μm

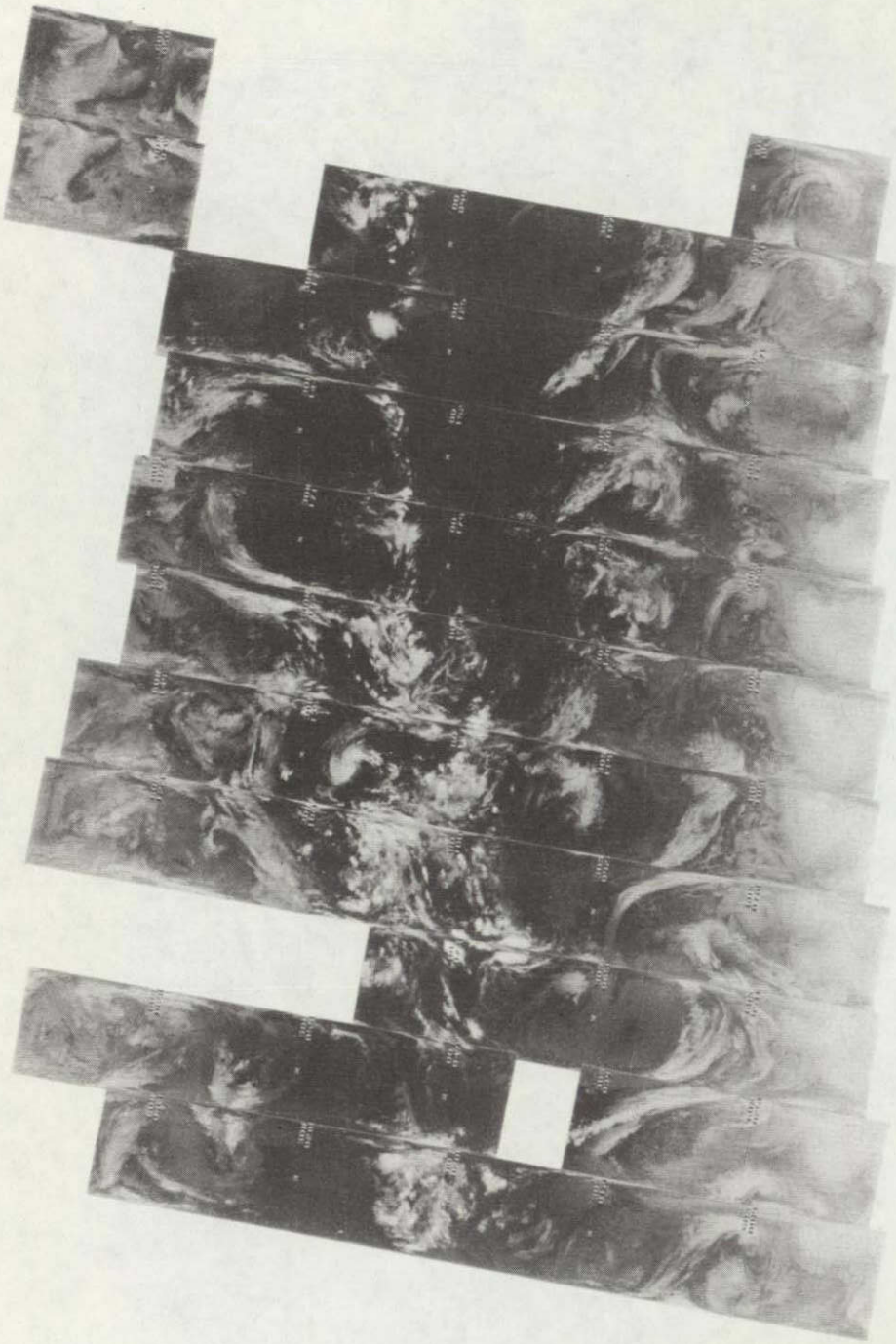


1497 1496 1495 1494 1493 1492 1491 1490 1489 1488 1487 1486 1485

1 OCTOBER 1975

6.7 μm

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1511 1510 1509 1508 1507 1506 1505 1504 1503 1502 1501 1500 1499 1498

2 OCTOBER 1975

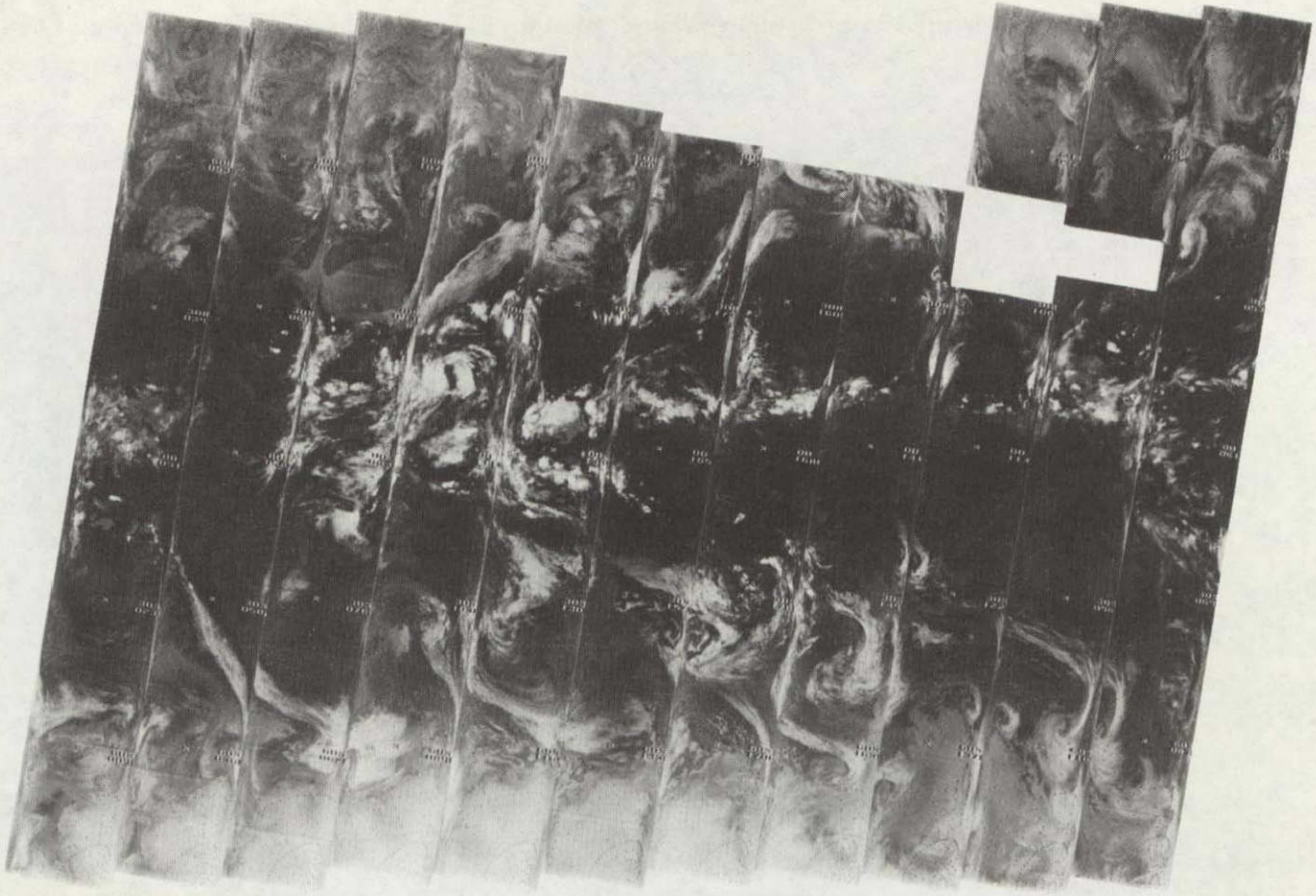
11.5 μm

ORIGINAL PAGE IS
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1511 1510 1509 1508 1507 1506 1505 1504 1503 1502 1501 1500 1499 1498

2 OCTOBER 1975

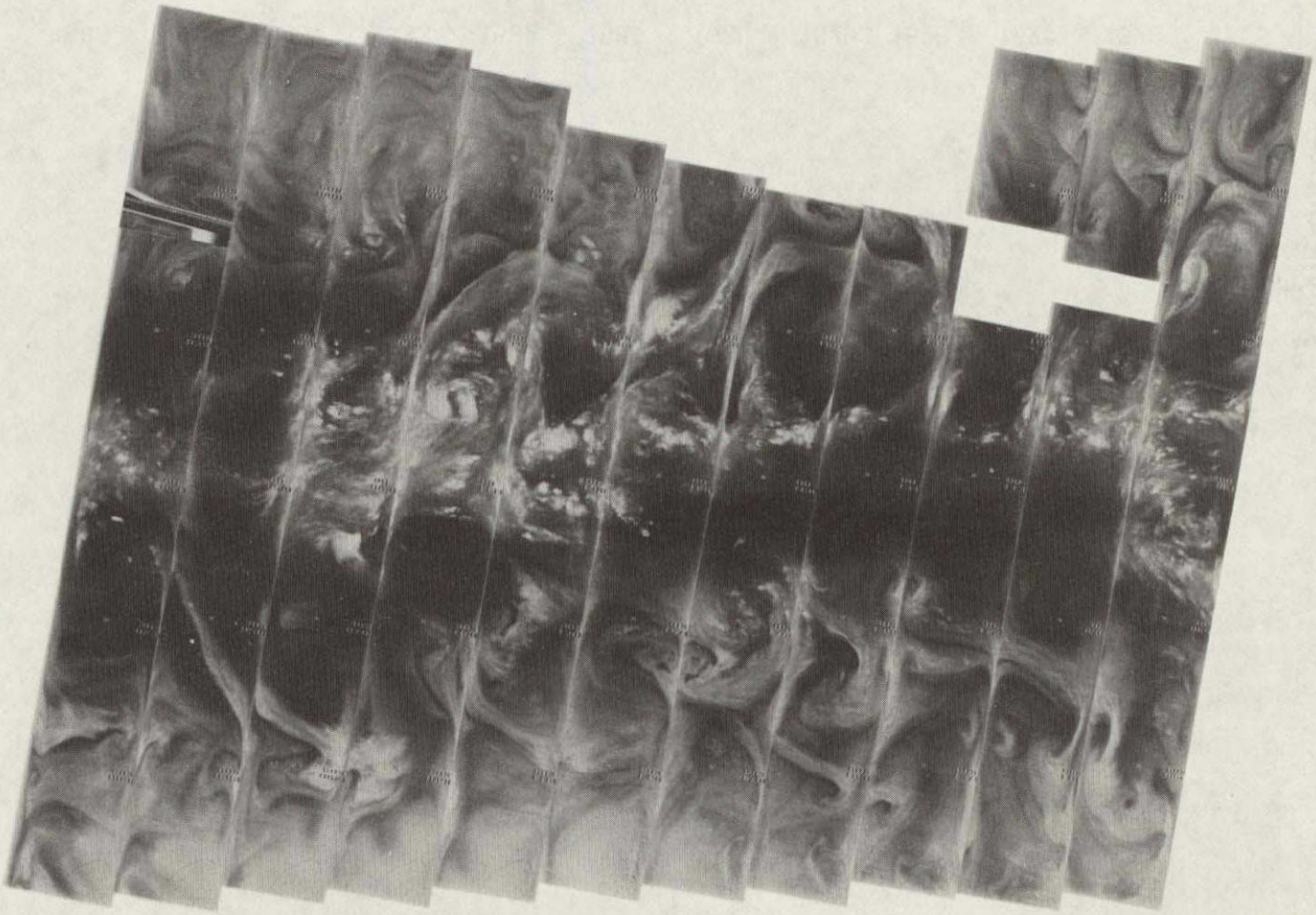
6.7 μm



1524 1523 1522 1521 1520 1519 1518 1517 1516 1515 1514 1513 1512

3 OCTOBER 1975

11.5 μm



1524 1523 1522 1521 1520 1519 1518 1517 1516 1515 1514 1513 1512

3 OCTOBER 1975

6.7 μm

1538 1537 1536 1535 1534 1533 1532 1531 1530 1529 1528 1527 1526 1525

4 OCTOBER 1975

11.5 μm

ORIGINAL PAGE IS
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ORIGINAL PAGE IS
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1538 1537 1536 1535 1534 1533 1532 1531 1530 1529 1528 1527 1526 1525

4 OCTOBER 1975

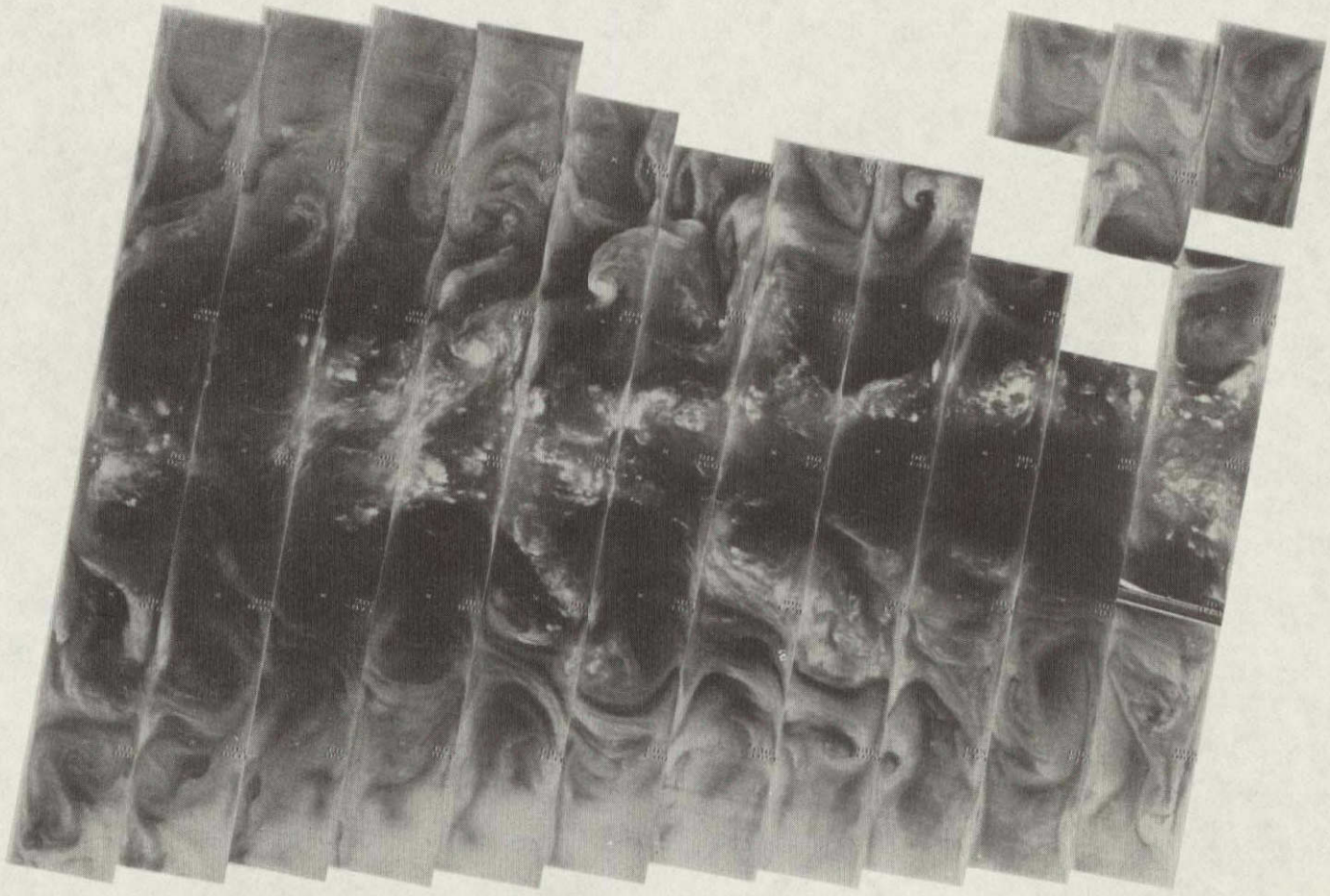
6.7 μm



1551 1550 1549 1547 1547 1546 1545 1544 1543 1542 1541 1540 1539

5 OCTOBER 1975

11.5 μm



1551 1550 1549 1548 1547 1546 1545 1544 1543 1542 1541 1540 1539

5 OCTOBER 1975

6.7 μm

1565 1564 1563 1562 1561 1560 1559 1558 1557 1556 1555 1554 1553 1552

6 OCTOBER 1975

11.5 μm

ORIGINAL PAGE IS
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ORIGINAL PAGE IS
OF POOR QUALITY

1565 1564 1563 1562 1561 1560 1559 1558 1557 1556 1555 1554 1553 1552

6 OCTOBER 1975

6.7 μm

1578 1577 1576 1575 1574 1573 1572 1571 1570 1569 1568 1567 1566

7 OCTOBER 1975

11.5 μm

1578 1577 1576 1575 1574 1573 1572 1571 1570 1569 1568 1567 1566

7 OCTOBER 1975

6.7 μm

ORIGINAL PAGE IS
OF POOR QUALITY

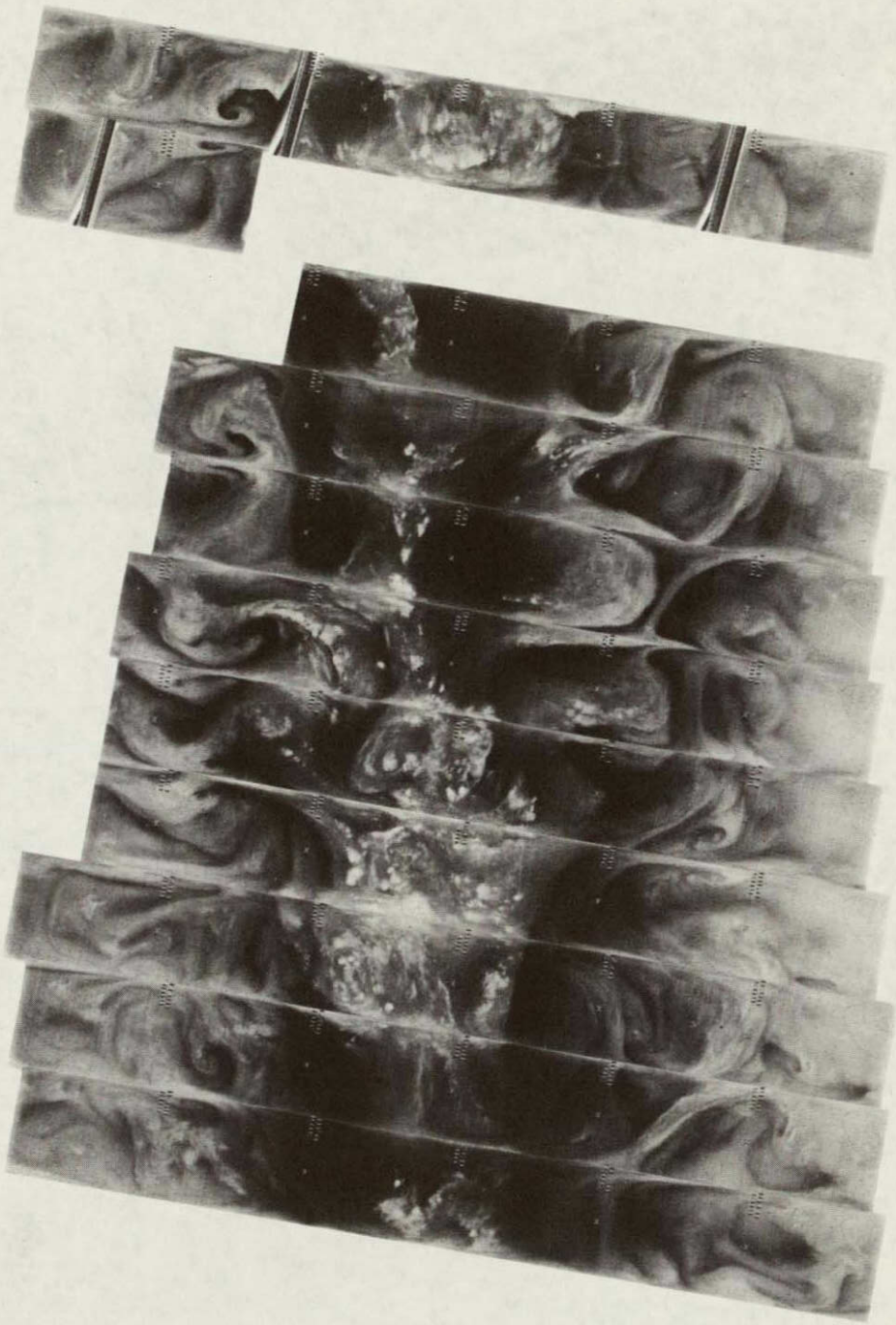


1591 1590 1589 1588 1587 1586 1585 1584 1583 1582 1581 1580 1579

8 OCTOBER 1975

11.5 μm

RIGINAL PAGE IS
F POOR QUALITY

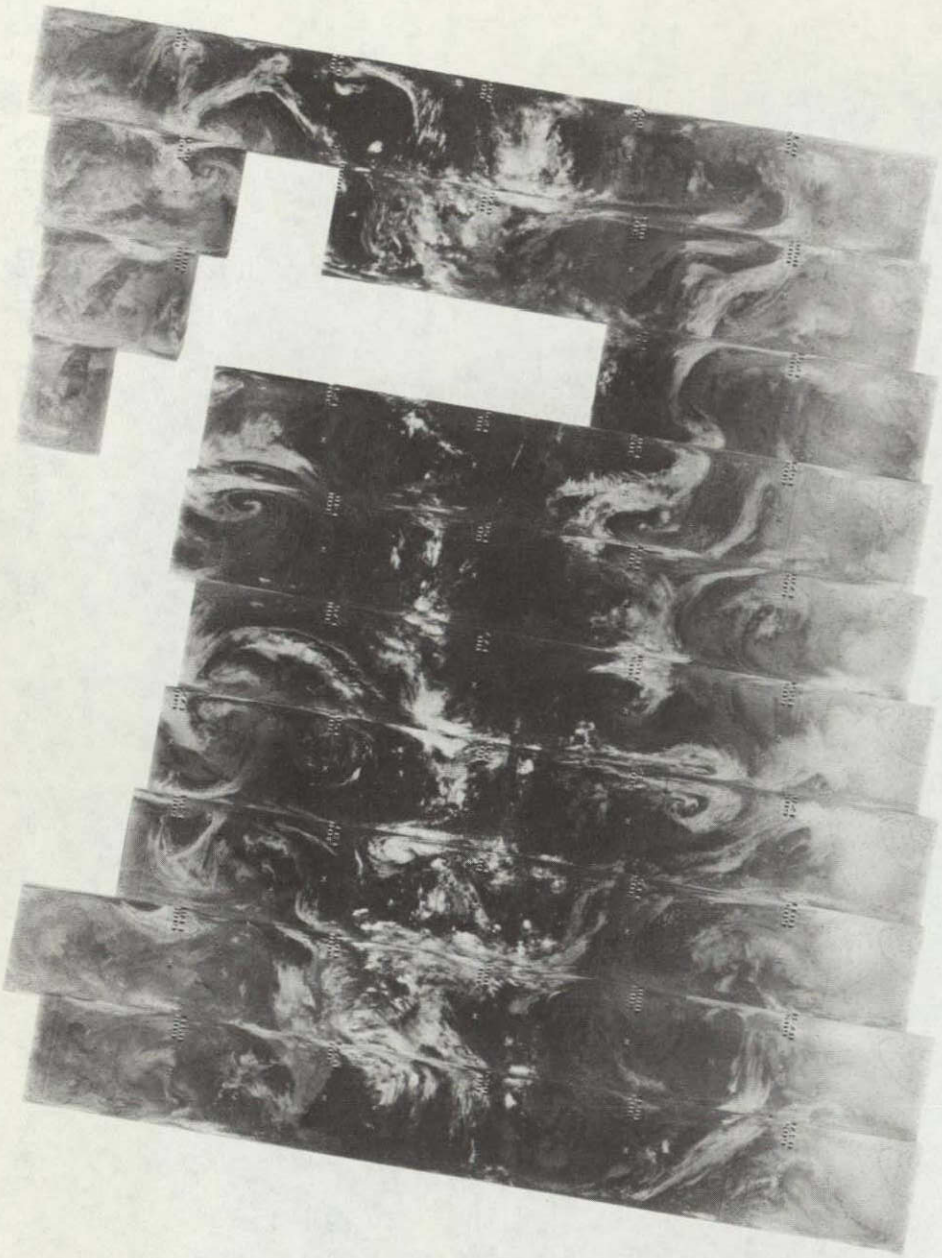


1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591

8 OCTOBER 1975

6.7 μm

ORIGINAL PAGE IS
OF POOR QUALITY



1605 1604 1603 1602 1601 1600 1599 1598 1597 1596 1595 1594 1593 1592

9 OCTOBER 1975

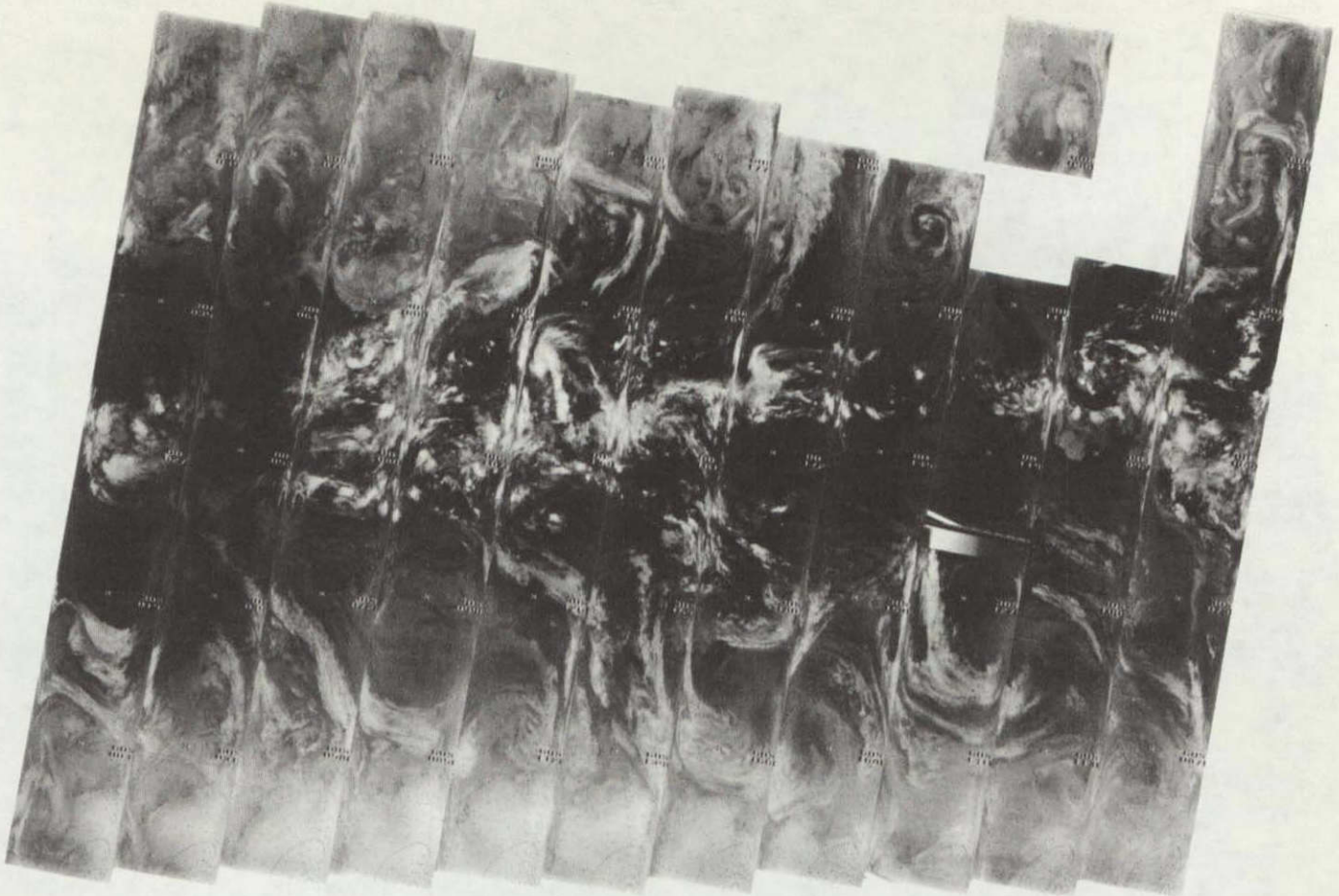
11.5 μm

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1605 1604 1603 1602 1601 1600 1599 1598 1597 1596 1595 1594 1593 1592

9 OCTOBER 1975

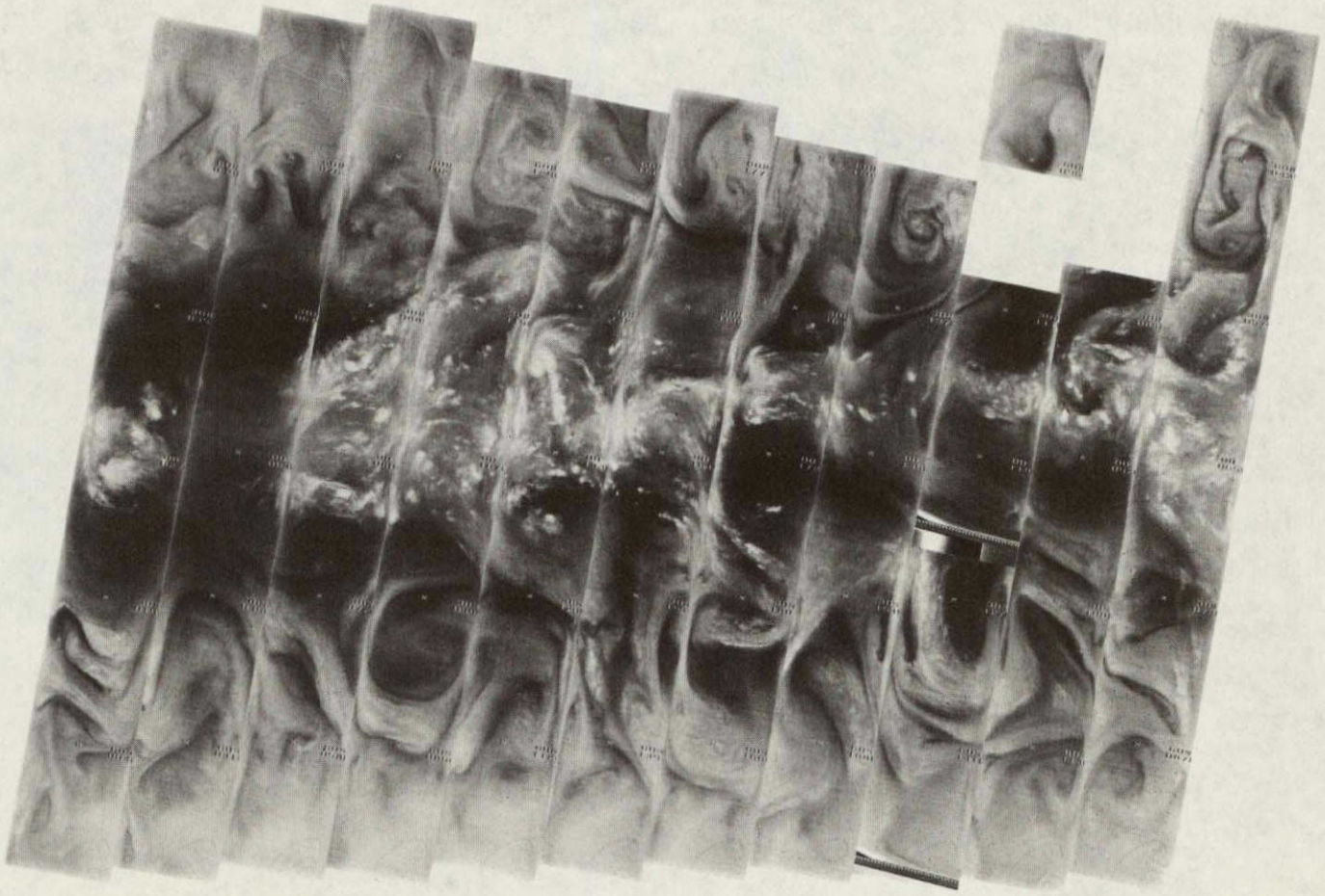
6.7 μm



1618 1617 1616 1615 1614 1613 1612 1611 1610 1609 1608 1607 1606

10 OCTOBER 1975

11.5 μm



1618 1617 1616 1615 1614 1613 1612 1611 1610 1609 1608 1607 1606

10 OCTOBER 1975

6.7 μm

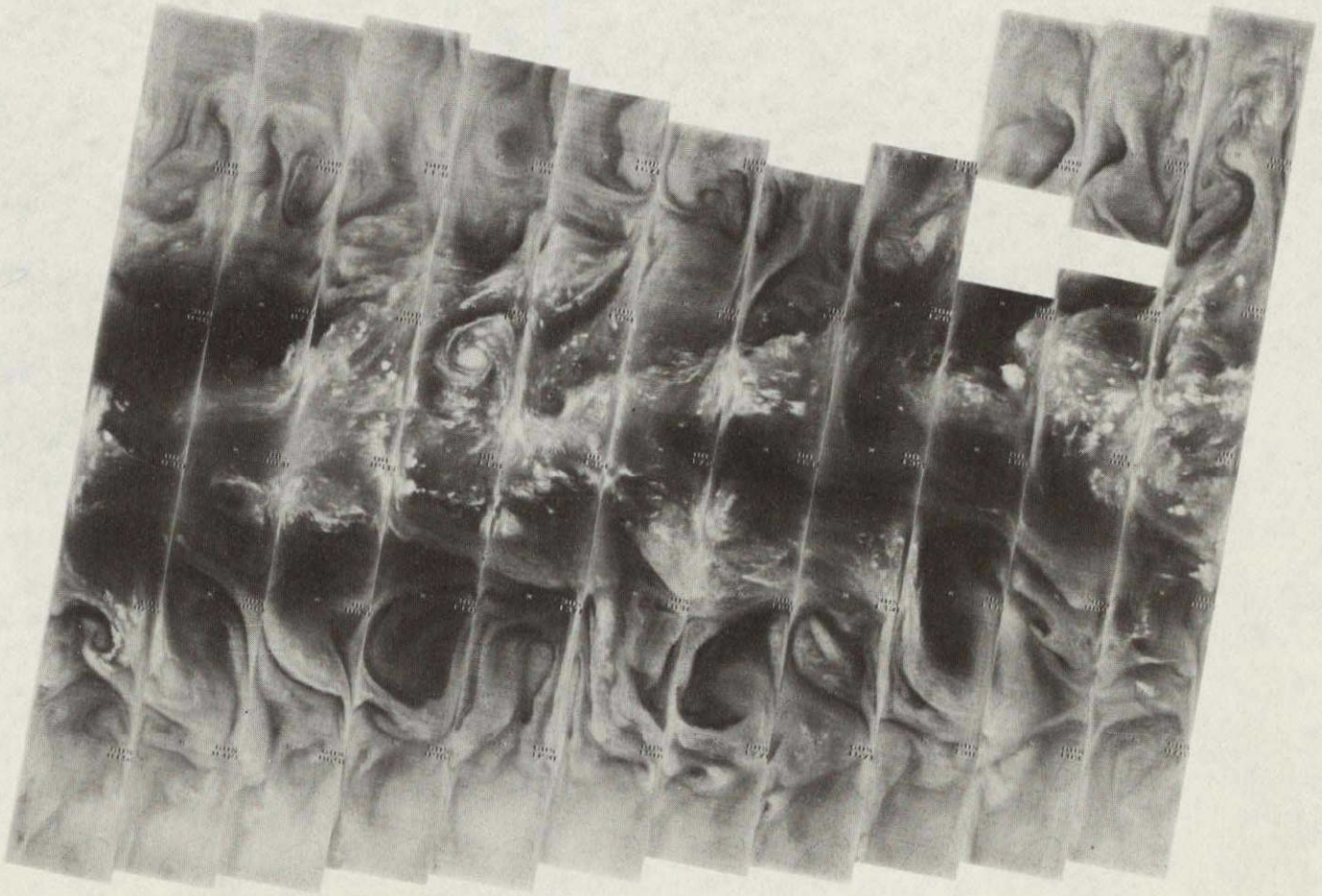
1632 1631 1630 1629 1628 1627 1626 1625 1624 1623 1622 1621 1620 1619

11 OCTOBER 1975

11.5 μm

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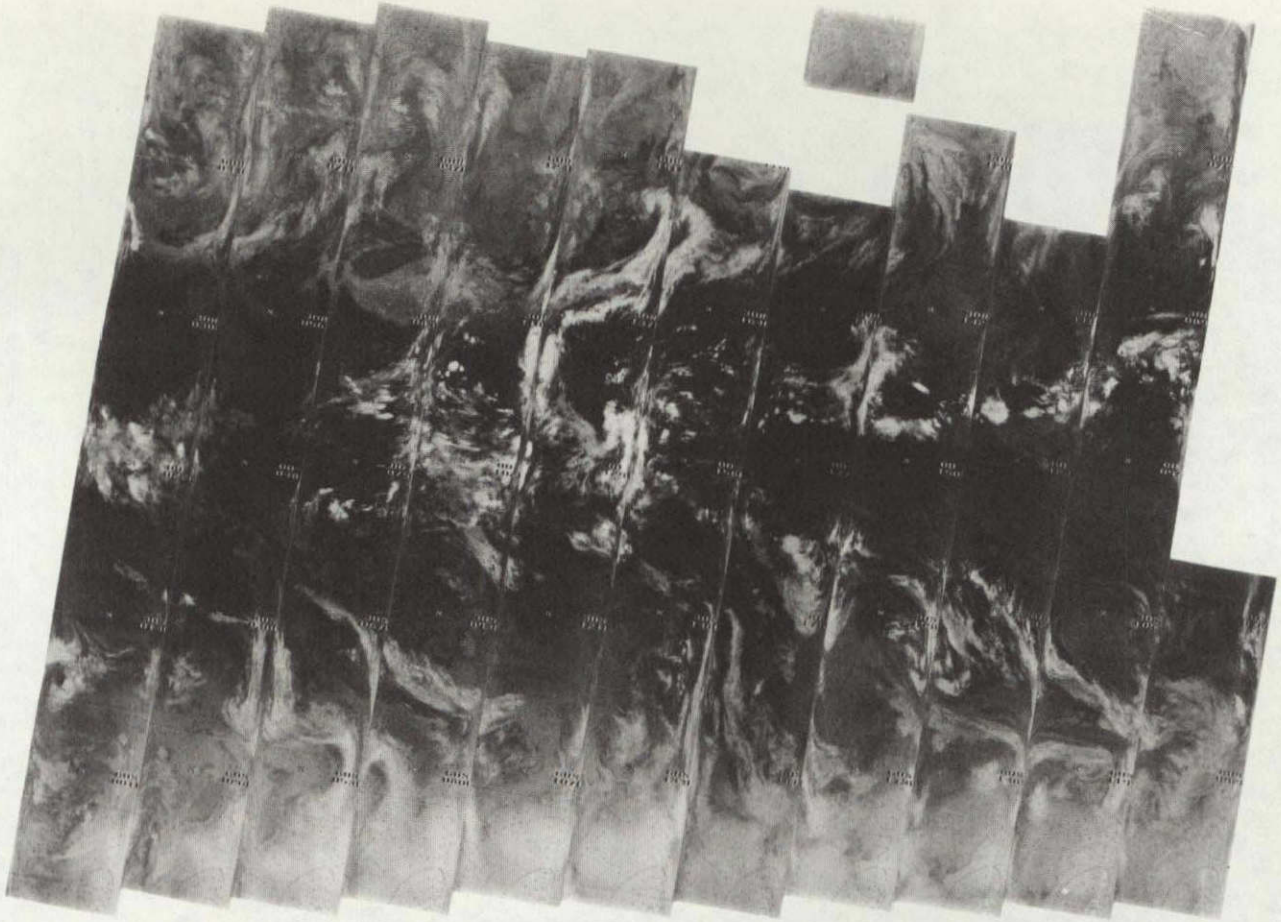
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1632 1631 1630 1629 1628 1627 1626 1625 1624 1623 1622 1621 1620 1619

11 OCTOBER 1975

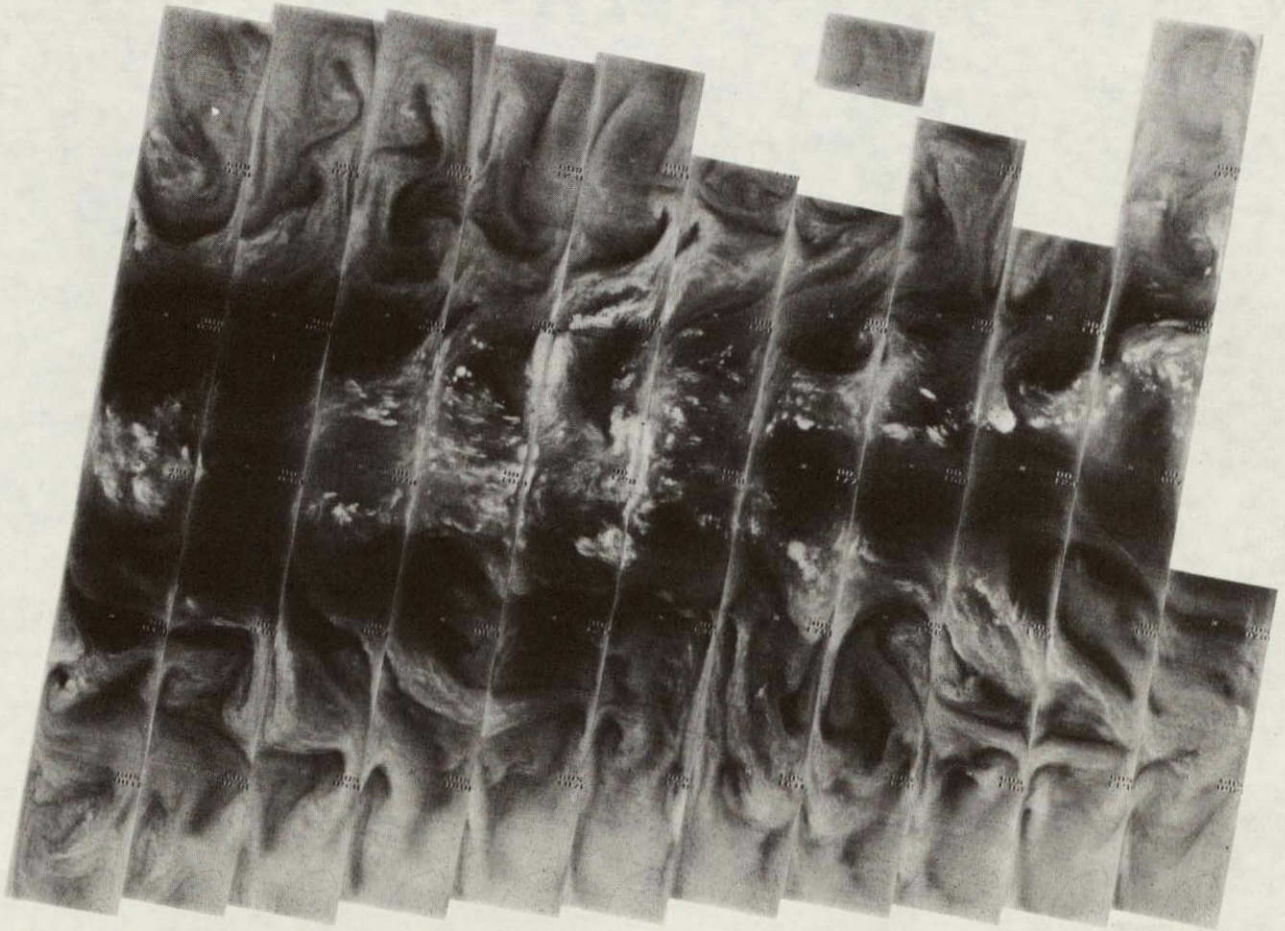
6.7 μm



1645 1644 1643 1642 1641 1640 1639 1638 1637 1636 1635 1634 1633

12 OCTOBER 1975

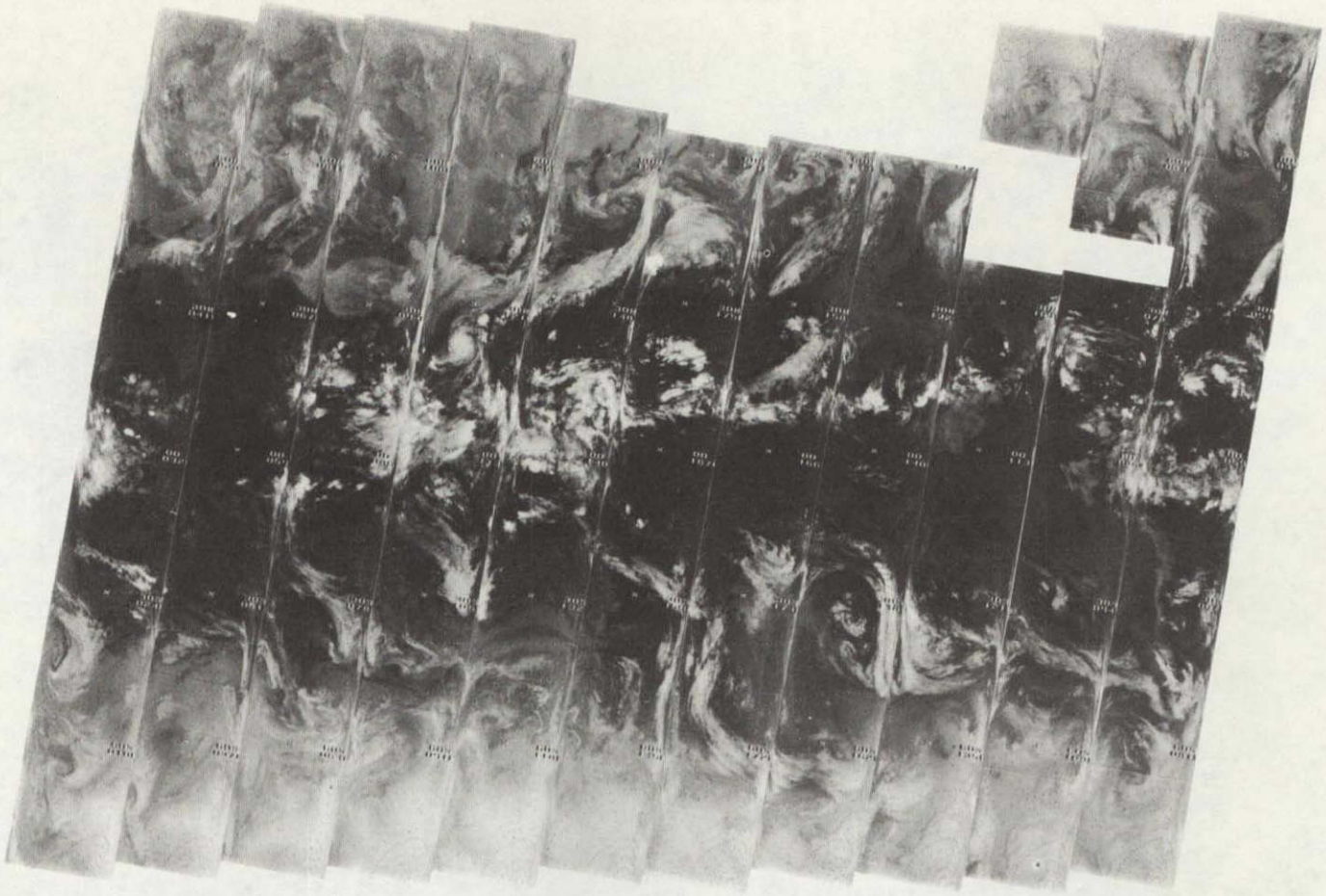
11.5 μm



1645 1644 1643 1642 1641 1640 1639 1638 1637 1636 1635 1634 1633

12 OCTOBER 1975

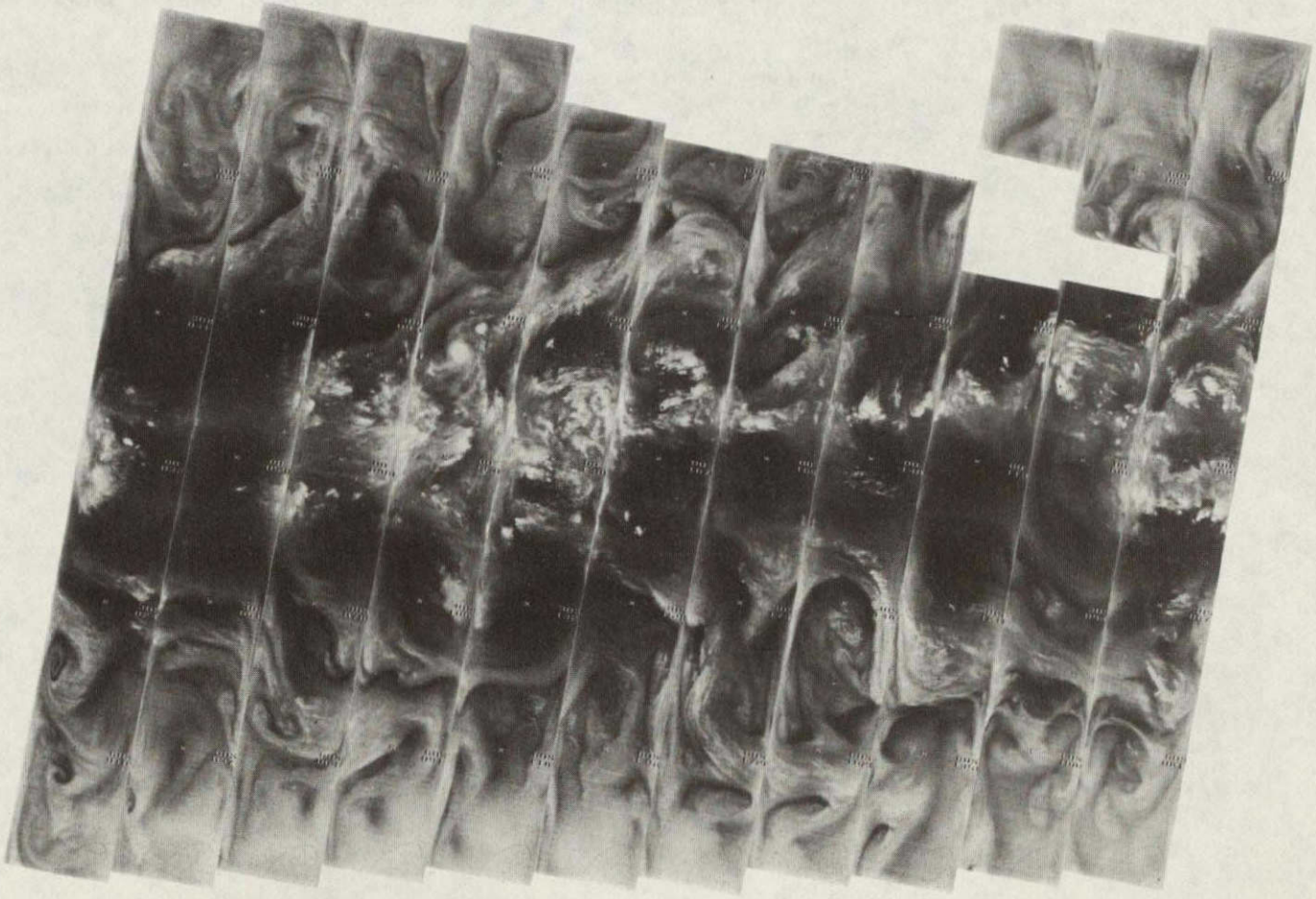
6.7 μm



1658 1657 1656 1655 1654 1653 1652 1651 1650 1649 1648 1647 1646

13 OCTOBER 1975

11.5 μm



1658 1657 1656 1655 1654 1653 1652 1651 1650 1649 1648 1647 1646

13 OCTOBER 1975

6.7 μm



1672 1671 1670 1669 1668 1667 1666 1665 1664 1663 1662 1661 1660 1659

14 OCTOBER 1975

11.5 μm

1672 1671 1670 1669 1668 1667 1666 1665 1664 1663 1662 1661 1660 1659

14 OCTOBER 1975

6.7 μm

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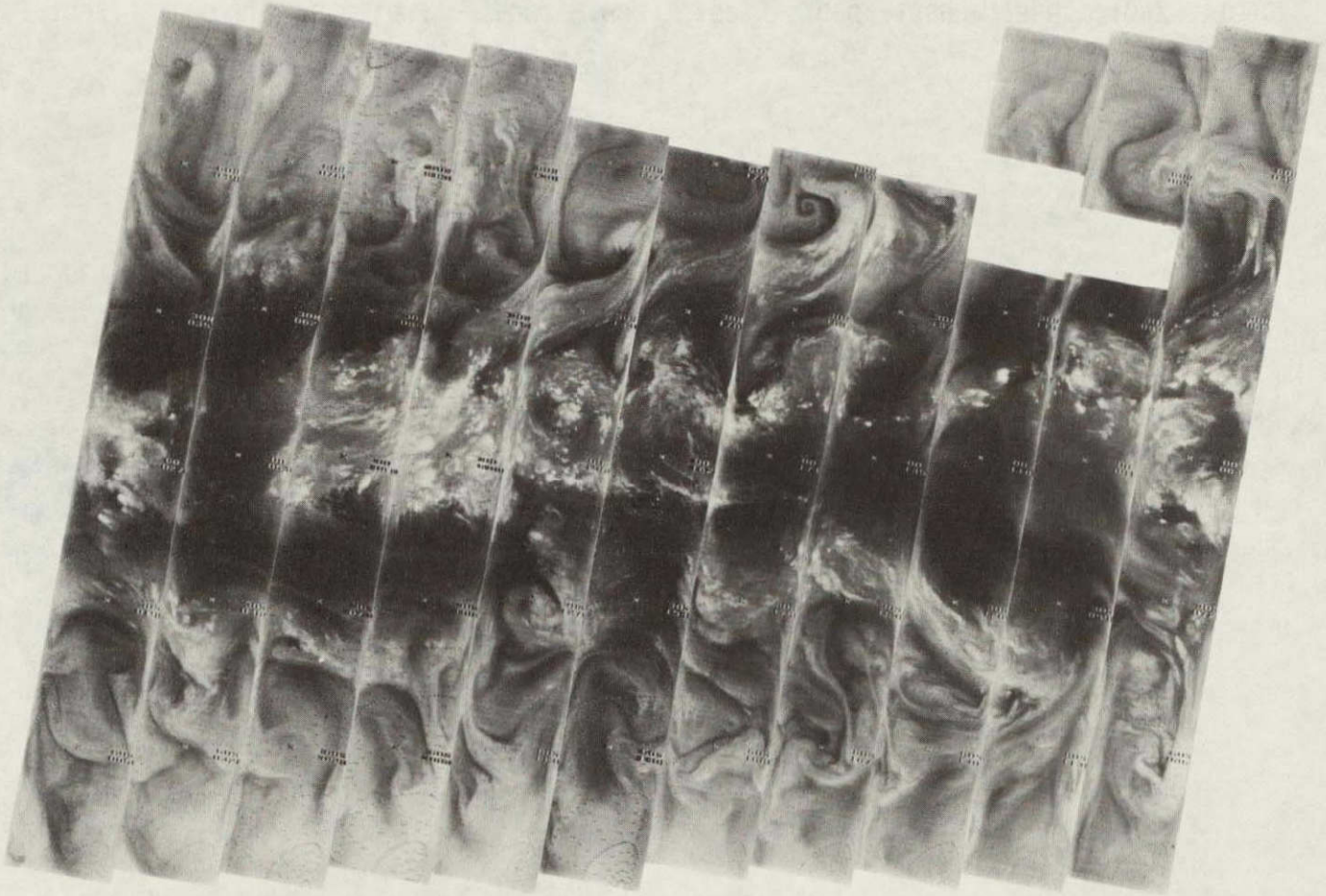


1685 1684 1683 1682 1681 1680 1679 1678 1677 1676 1675 1674 1673

15 OCTOBER 1975

11.5 μm

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1685 1684 1683 1682 1681 1680 1679 1678 1677 1676 1675 1674 1673

15 OCTOBER 1975

6.7 μm



1699 1698 1697 1696 1695 1694 1693 1692 1691 1690 1689 1688 1687 1686

16 OCTOBER 1975

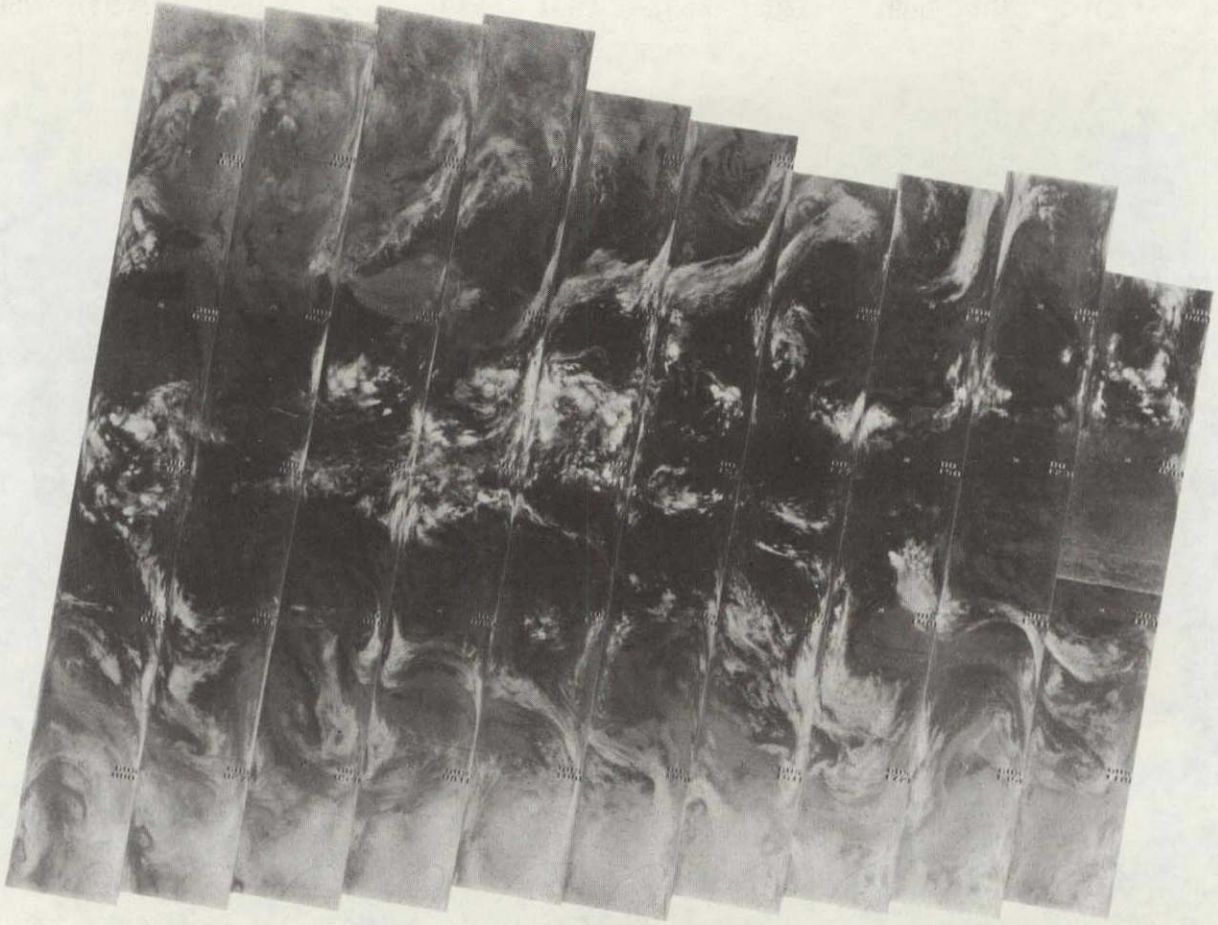
11.5 μm

1699 1698 1697 1696 1695 1694 1693 1692 1691 1690 1689 1688 1687 1686

16 OCTOBER 1975

6.7 μm

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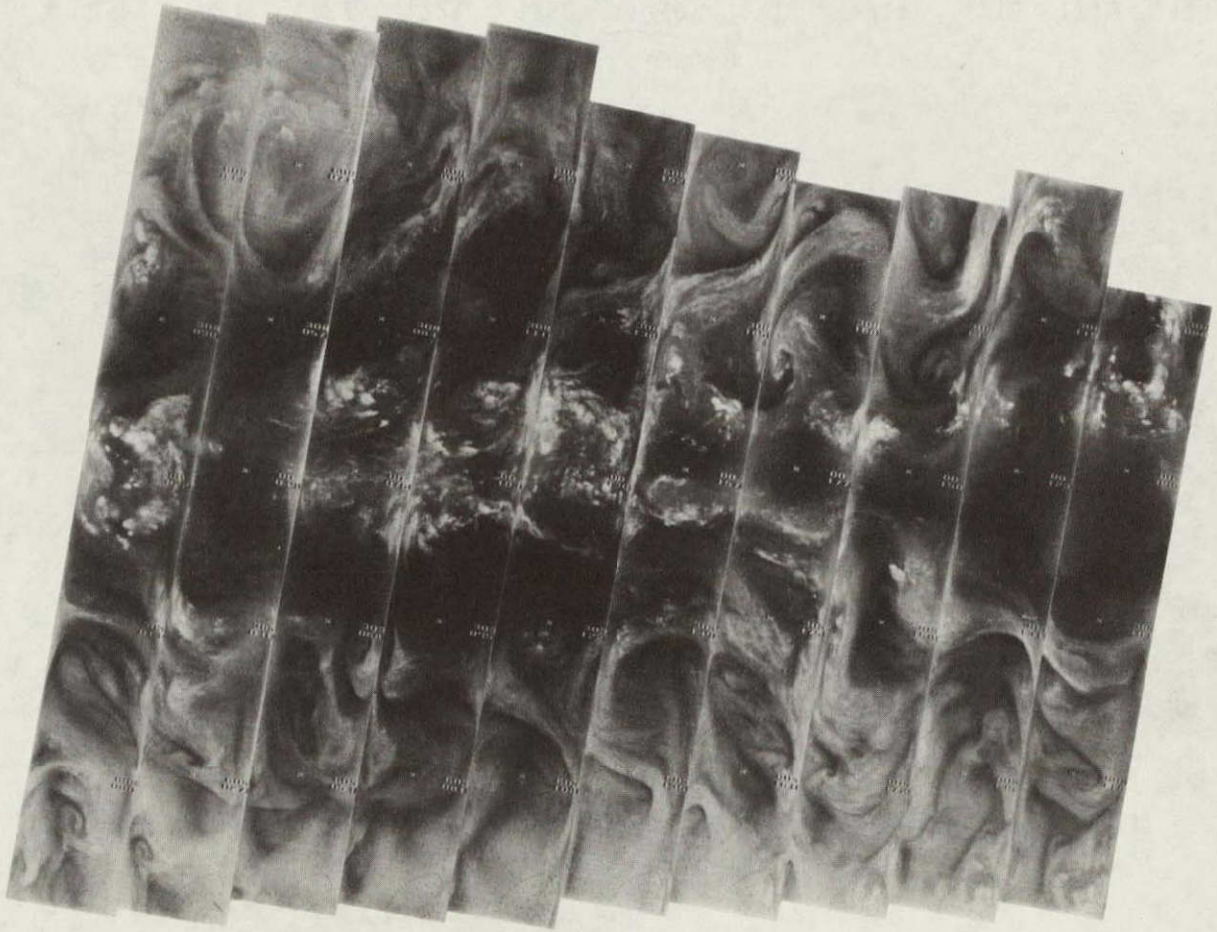


1712 1711 1710 1709 1708 1707 1706 1705 1704 1703 1702 1701 1700

17 OCTOBER 1975

11.5 μm

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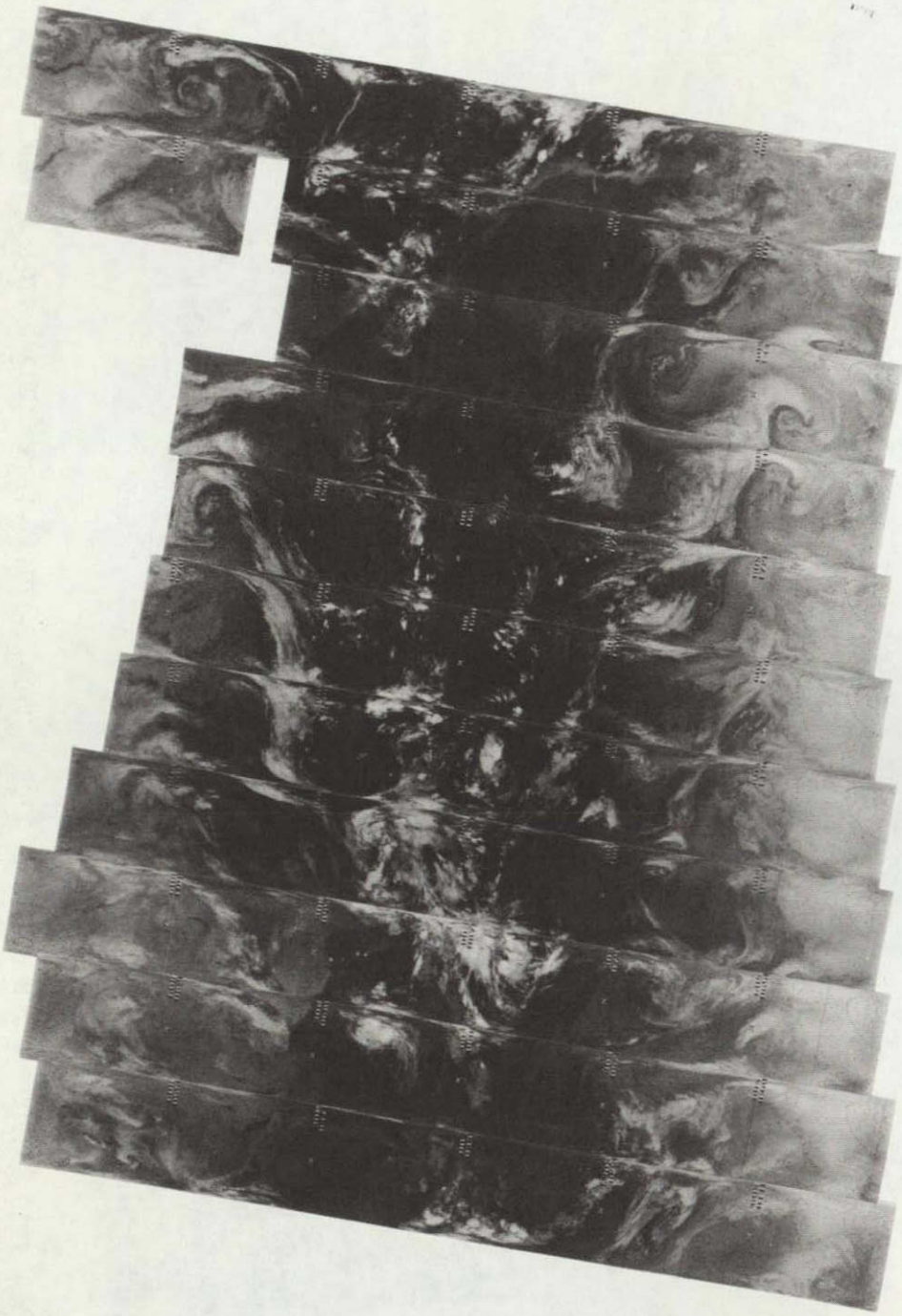


1712 1711 1710 1709 1708 1707 1706 1705 1704 1703 1702 1701 1700

17 OCTOBER 1975

6.7 μm

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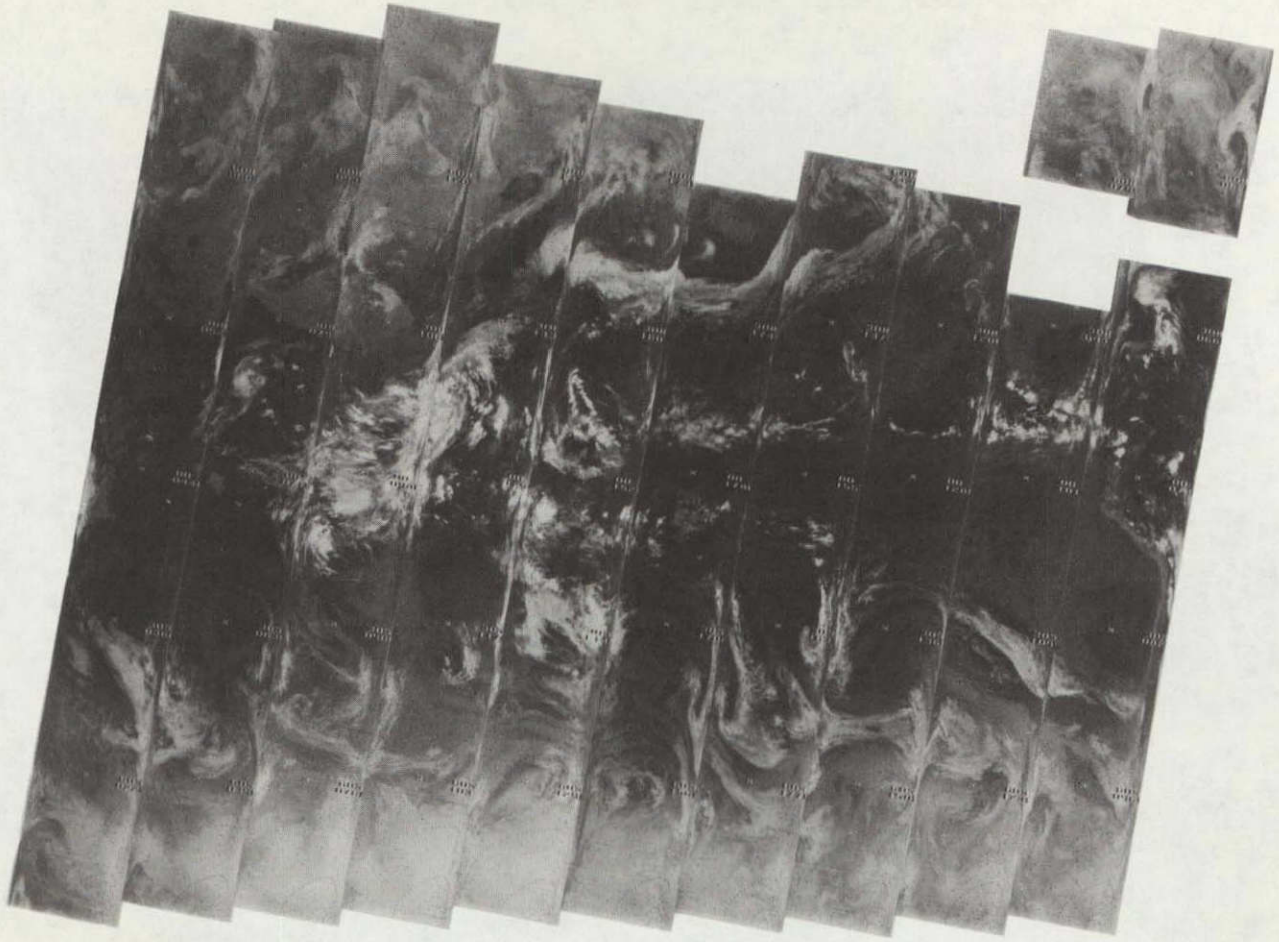


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1725 1724 1723 1722 1721 1720 1719 1718 1717 1716 1715 1714 1713

18 OCTOBER 1975

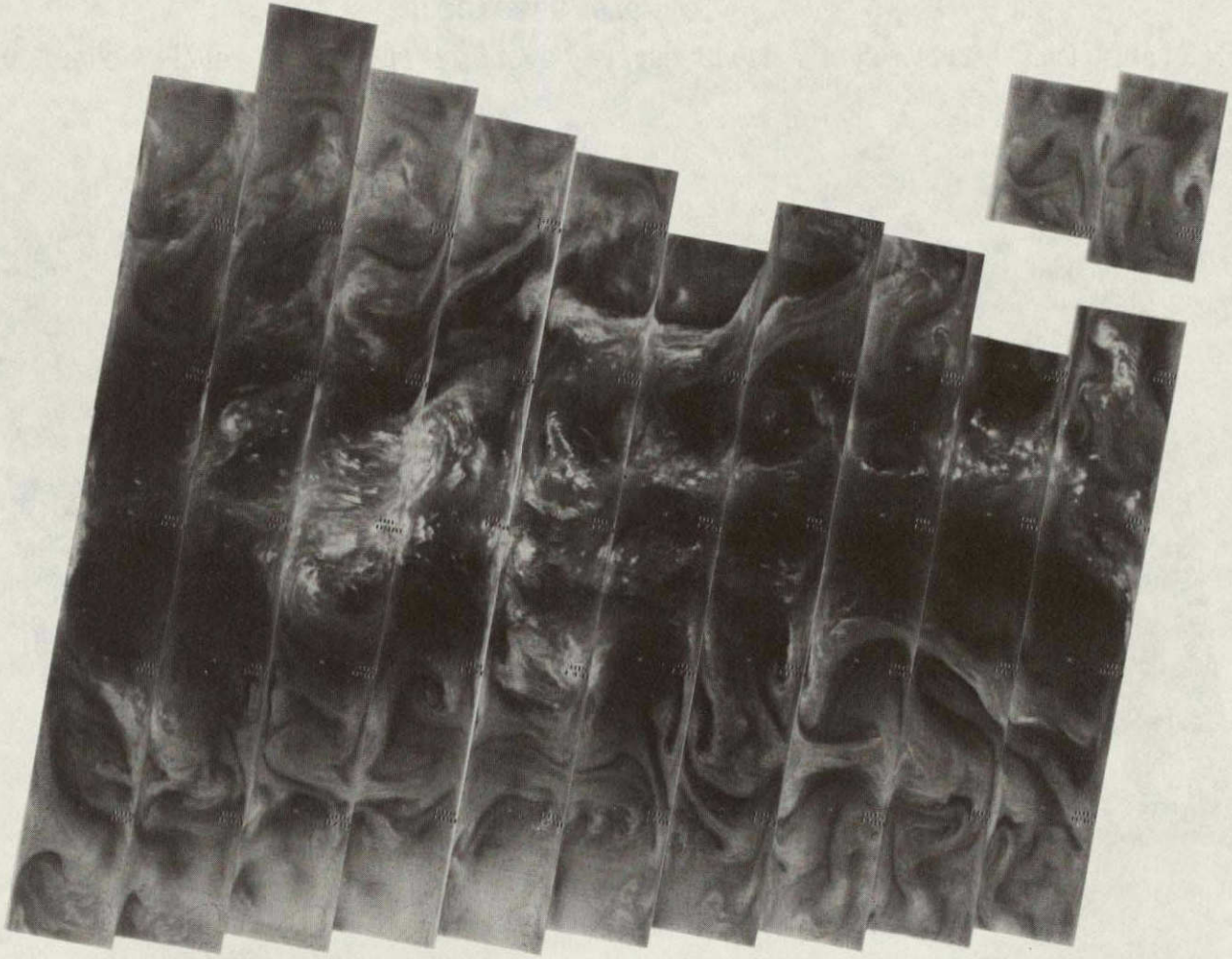
6.7 μm



1739 1738 1737 1736 1735 1734 1733 1732 1731 1730 1729 1728 1727 1726

19 OCTOBER 1975

11.5 μm



1739 1738 1737 1736 1735 1734 1733 1732 1731 1730 1729 1728 1727 1726

19 OCTOBER 1975

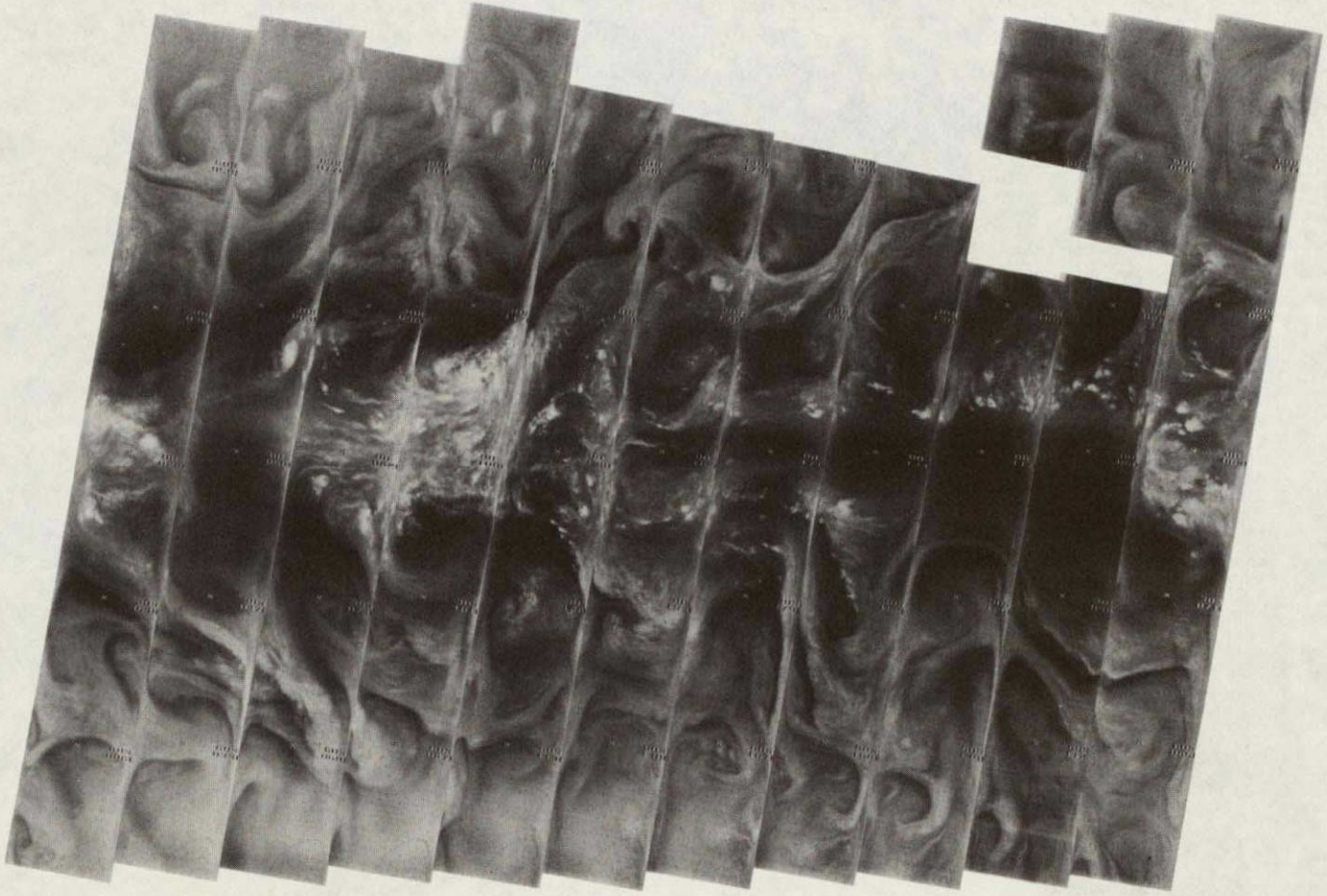
6.7 μm



1752 1751 1750 1749 1748 1747 1746 1745 1744 1743 1742 1741 1740

20 OCTOBER 1975

11.5 μm

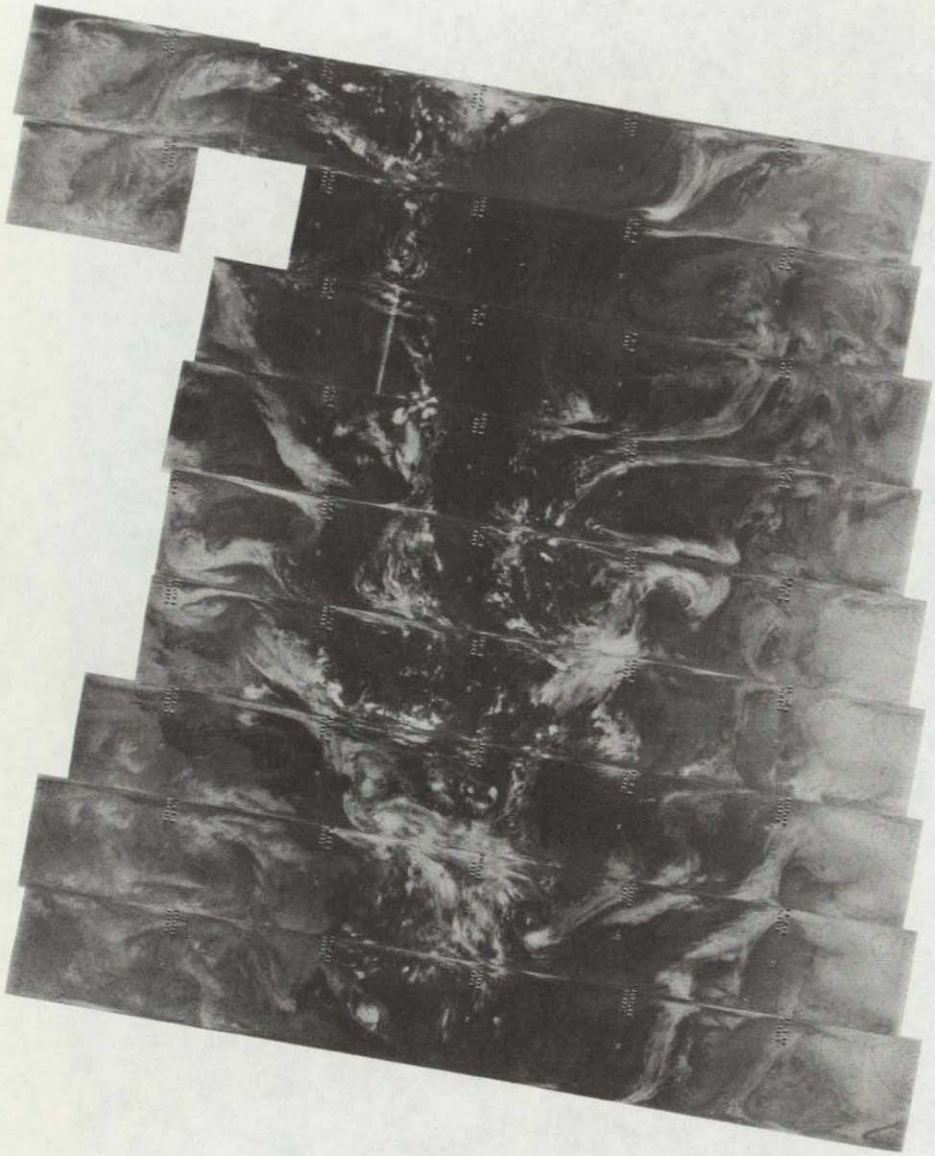


1752 1751 1750 1749 1748 1747 1746 1745 1744 1743 1742 1741 1740

20 OCTOBER 1975

6.7 μm

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1766 1765 1764 1763 1762 1761 1760 1759 1758 1757 1756 1755 1754 1753

21 OCTOBER 1975

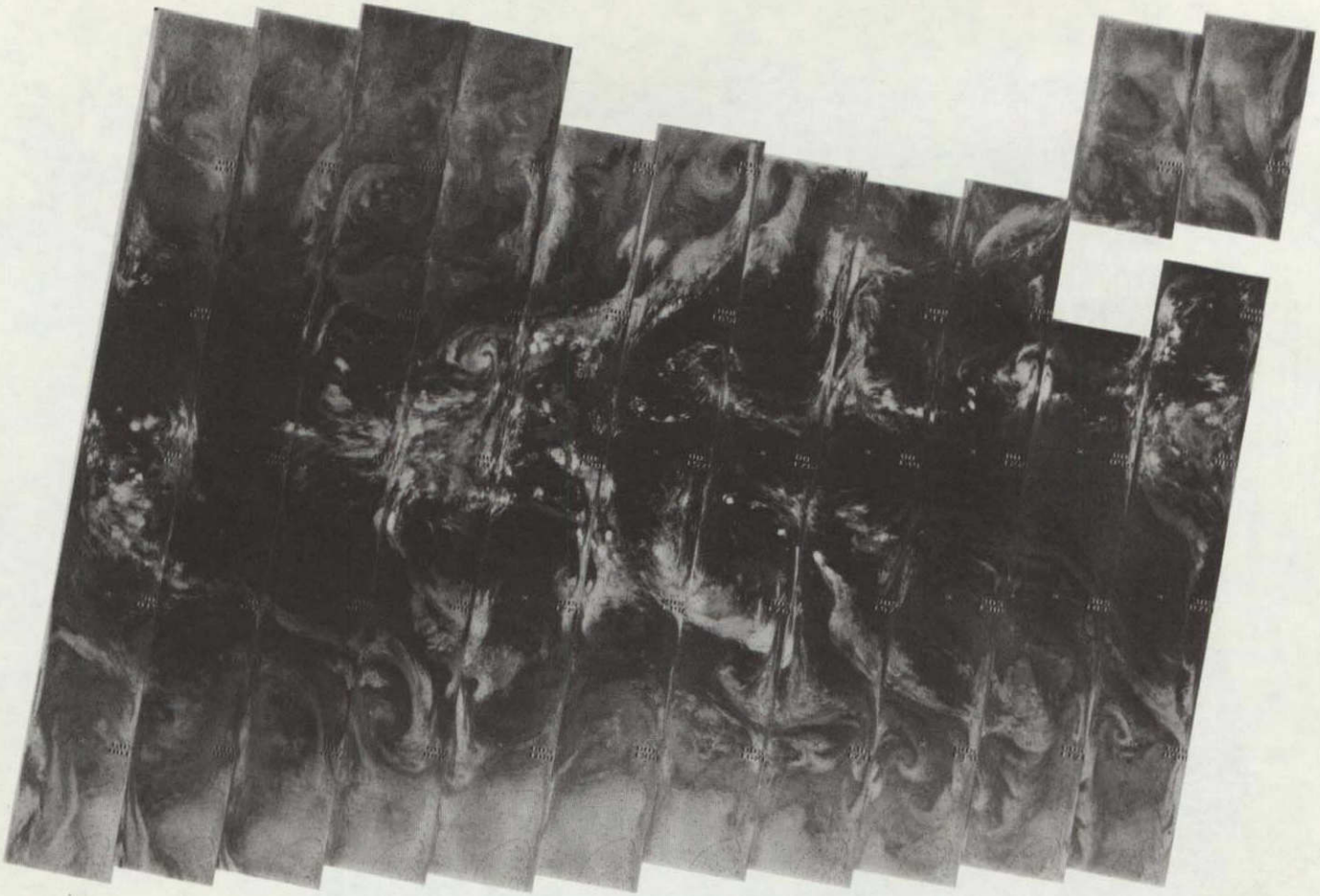
11.5 μm

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1766 1765 1764 1763 1762 1761 1760 1759 1758 1757 1756 1755 1754 1753

21 OCTOBER 1975

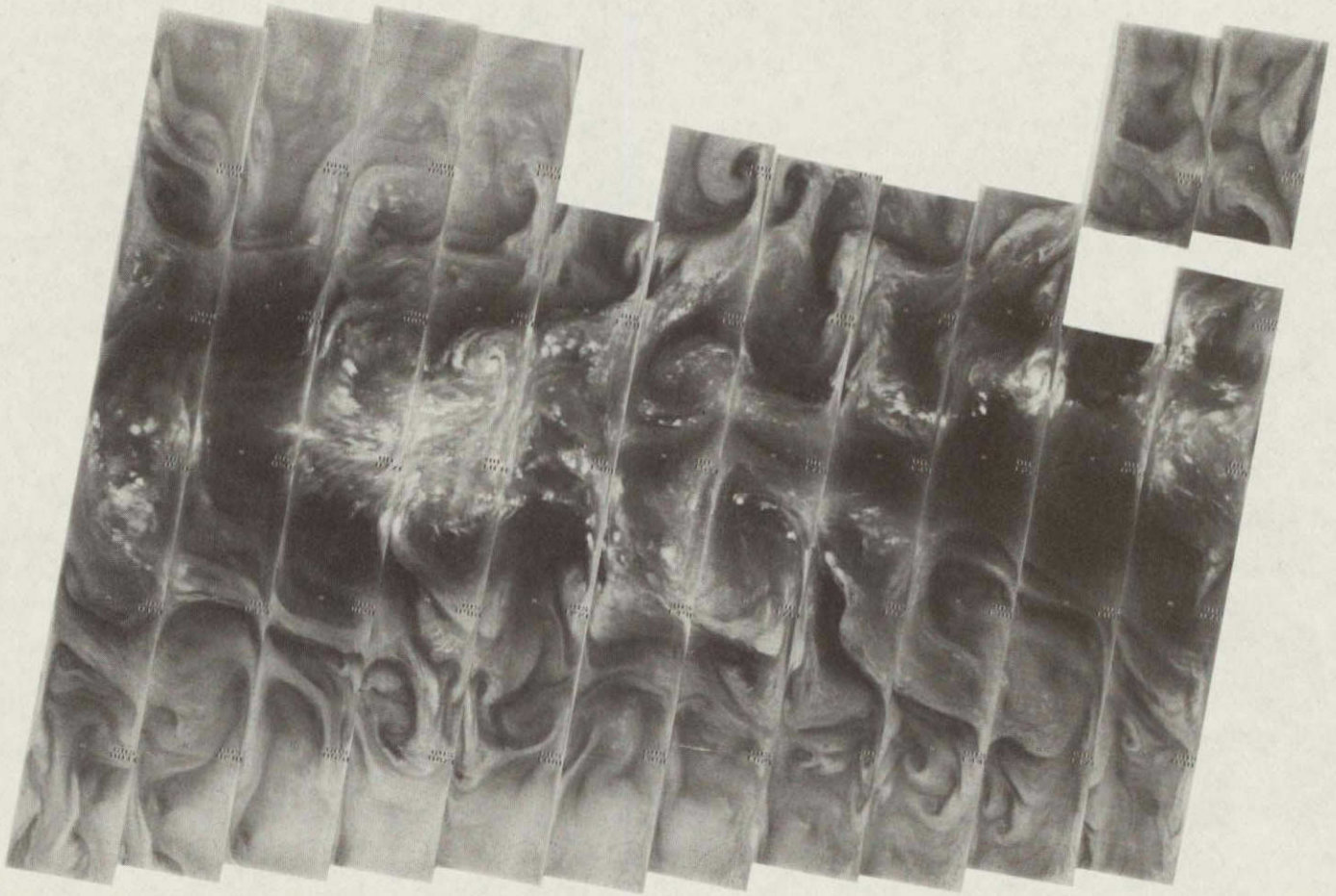
6.7 μm



1779 1778 1777 1776 1775 1774 1773 1772 1771 1770 1769 1768 1767

22 OCTOBER 1975

11.5 μm



1779 1778 1777 1776 1775 1774 1773 1772 1771 1770 1769 1768 1767

22 OCTOBER 1975

6.7 μm

1792 1791 1790 1789 1788 1787 1786 1785 1784 1783 1782 1781 1780

23 OCTOBER 1975

11.5 μm

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1792 1791 1790 1789 1788 1787 1786 1785 1784 1783 1782 1781 1780

23 OCTOBER 1975

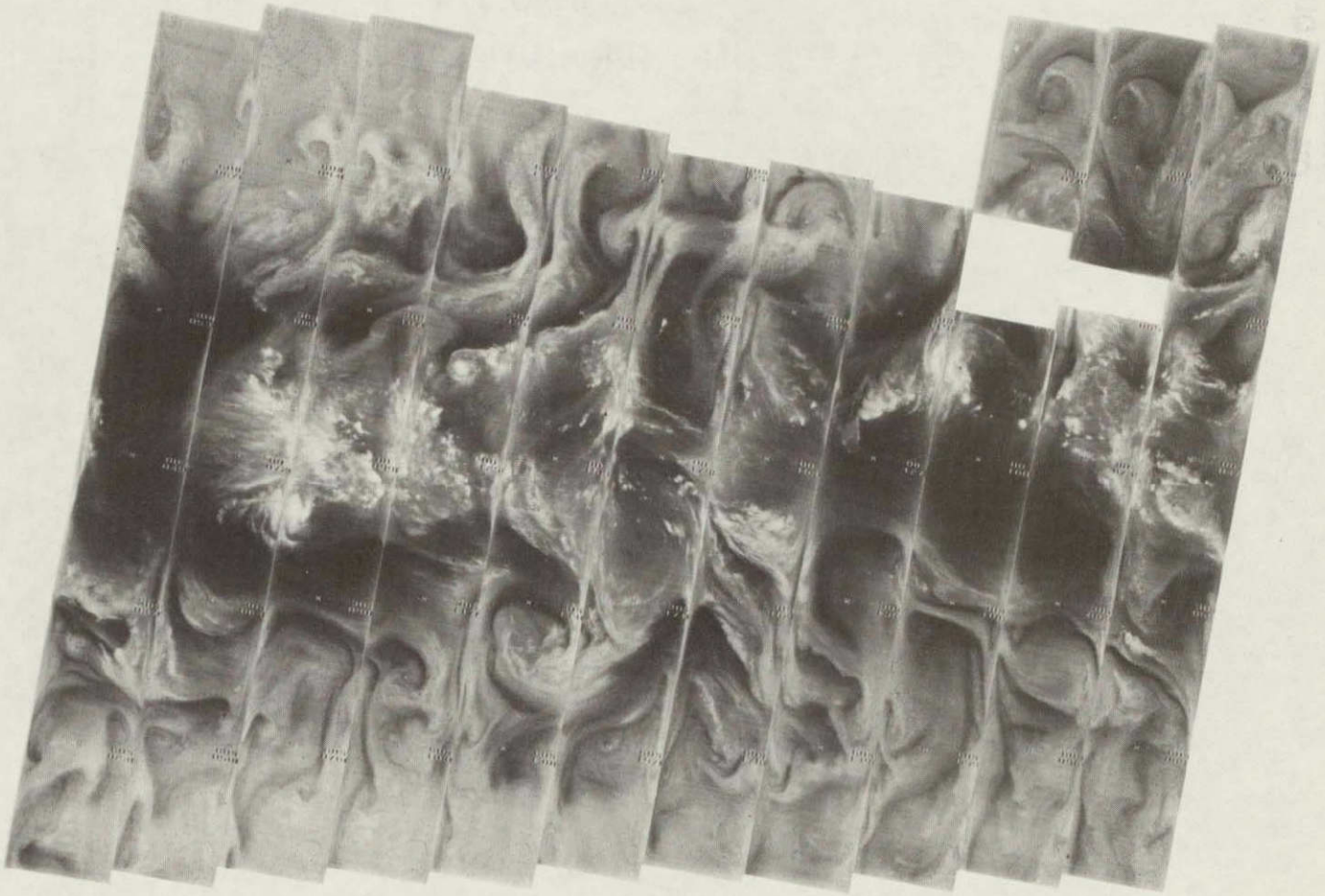
6.7 μm



1806 1805 1804 1803 1802 1801 1800 1799 1798 1797 1796 1795 1794 1793

24 OCTOBER 1975

11.5 μm



1806 1805 1804 1803 1802 1801 1800 1799 1798 1797 1796 1795 1794 1793

24 OCTOBER 1975

6.7 μm

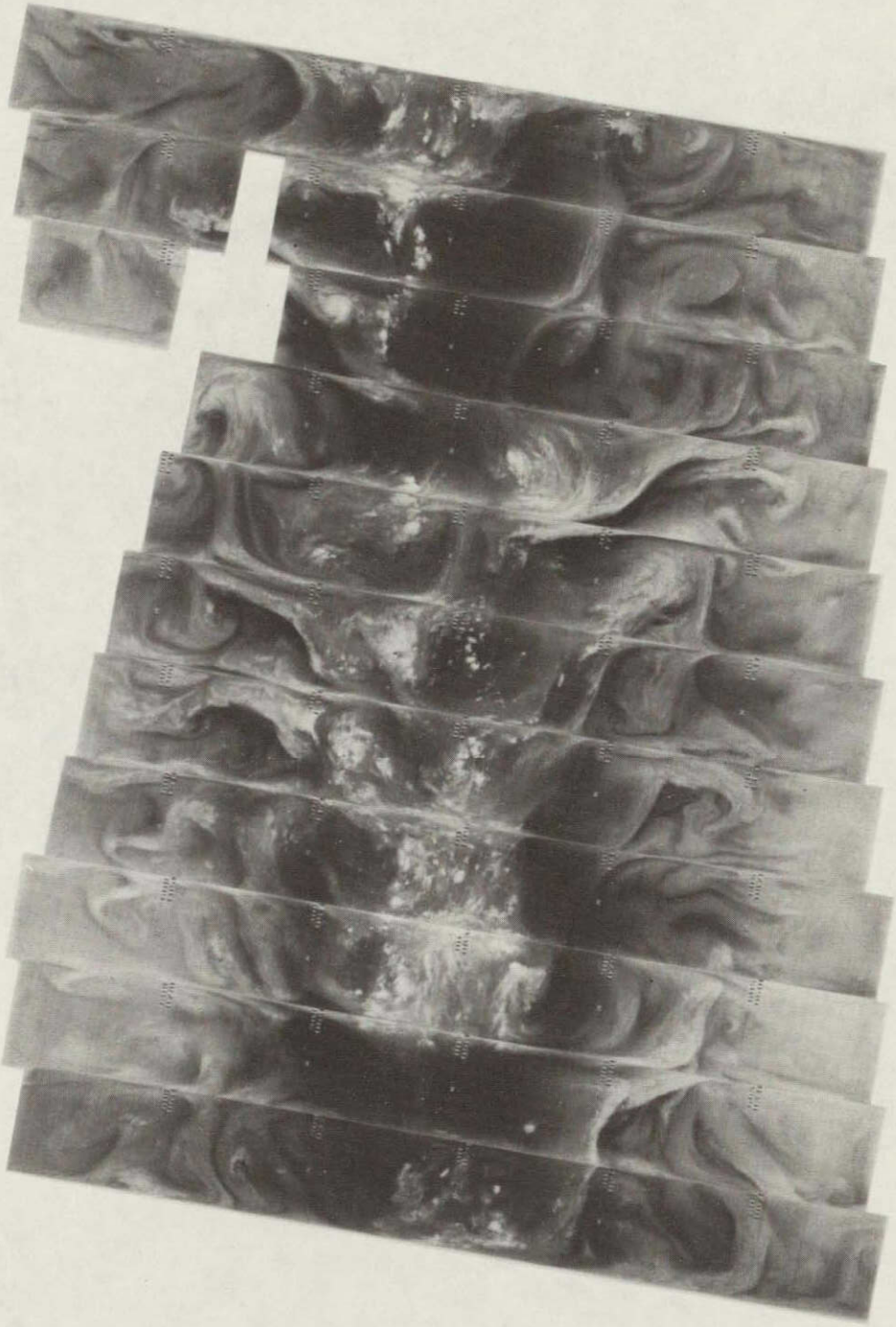
1819 1818 1817 1816 1815 1814 1813 1812 1811 1810 1809 1808 1807

25 OCTOBER 1975

11.5 μm

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1819 1818 1817 1816 1815 1814 1813 1812 1811 1810 1809 1808 1807

25 OCTOBER 1975

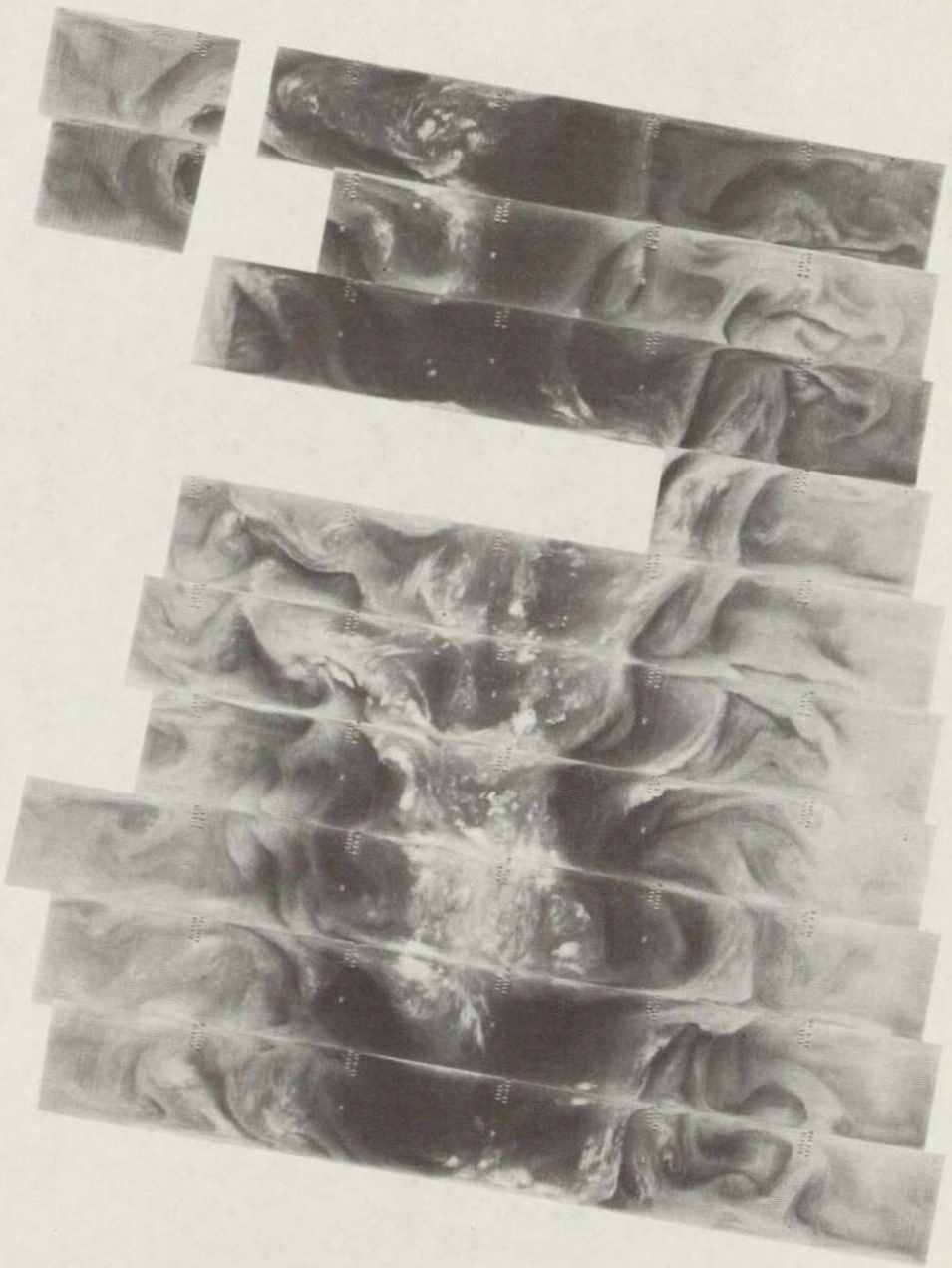
6.7 μm

1833 1832 1831 1830 1829 1828 1827 1826 1825 1824 1823 1822 1821 1820

26 OCTOBER 1975

11.5 μm

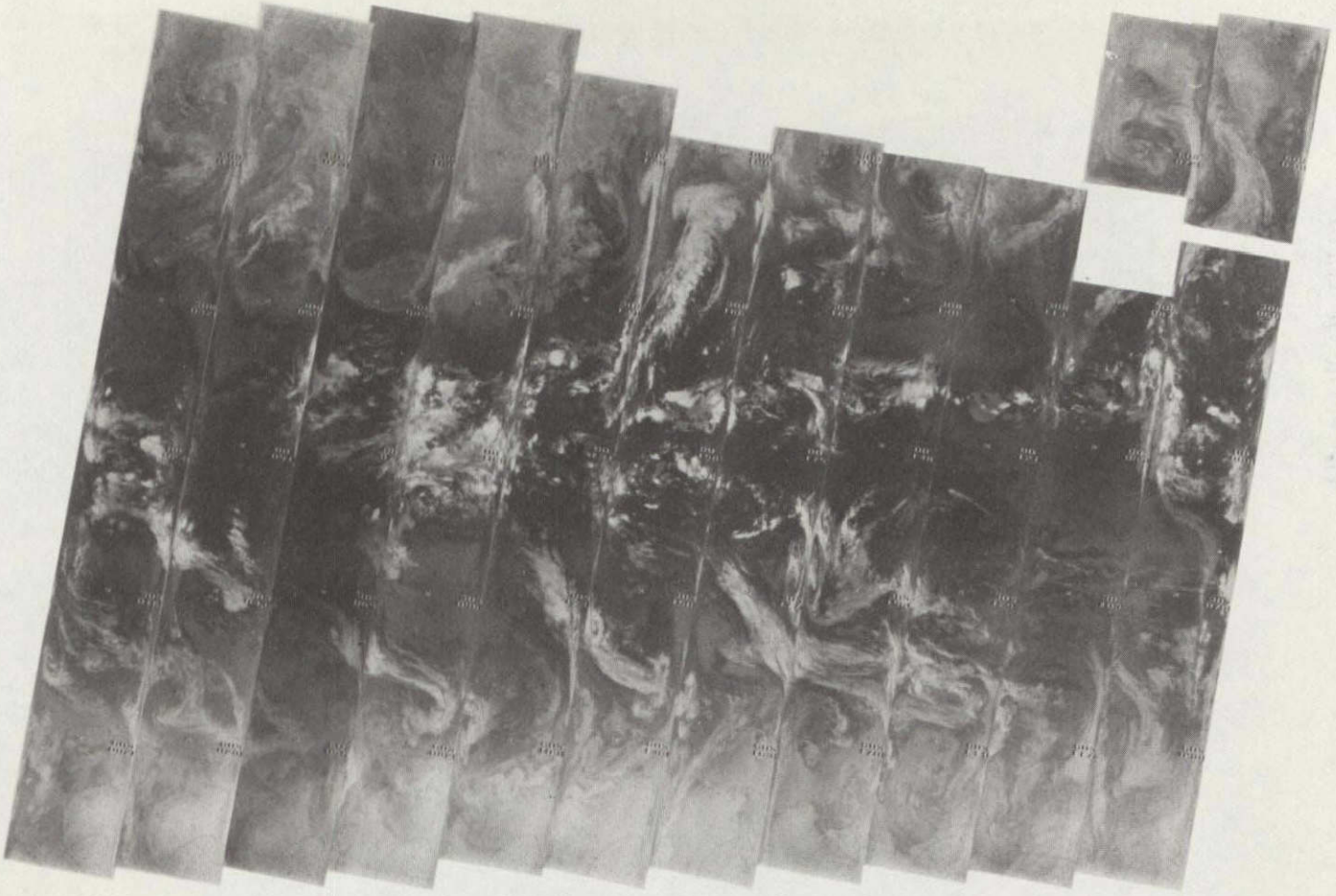
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1833 1832 1831 1830 1829 1828 1827 1826 1825 1824 1823 1822 1821 1820

26 OCTOBER 1975

6.7 μm

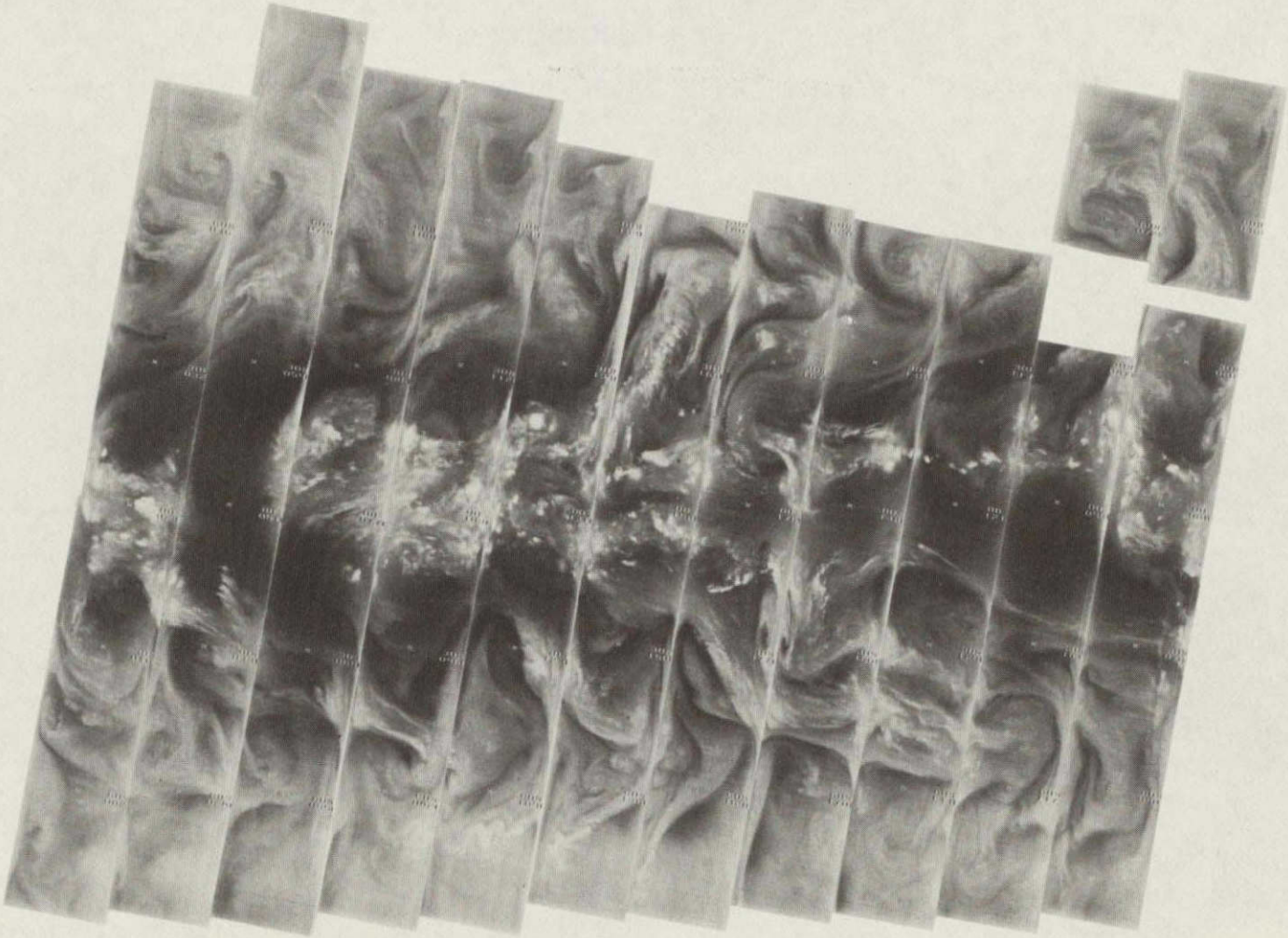


1846 1845 1844 1843 1842 1841 1840 1839 1838 1837 1836 1835 1834

27 OCTOBER 1975

11.5 μm

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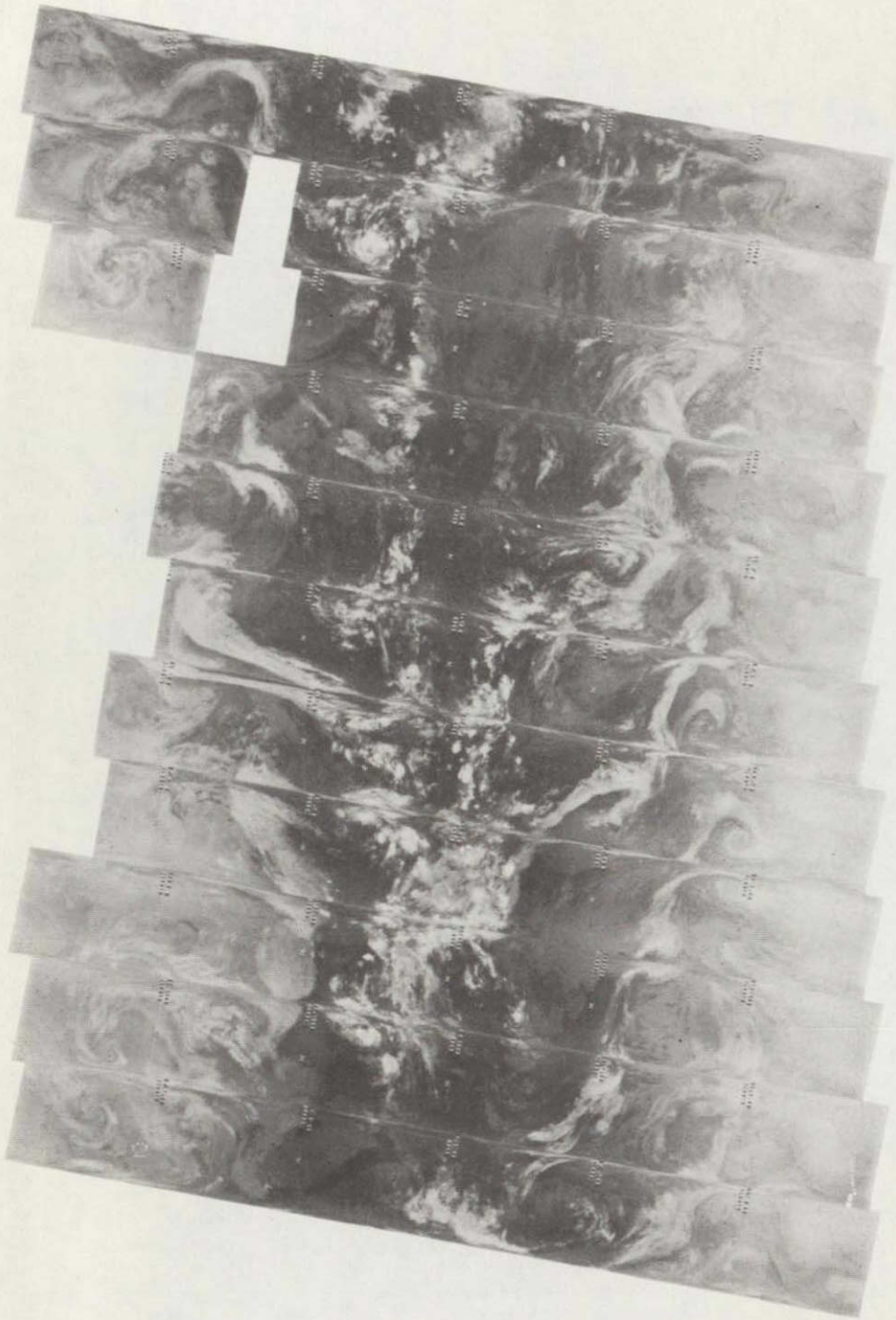


1846 1845 1844 1843 1842 1841 1840 1839 1838 1837 1836 1835 1834

27 OCTOBER 1975

6.7 μm

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1859 1858 1857 1856 1855 1854 1853 1852 1851 1850 1849 1848 1847

28 OCTOBER 1975

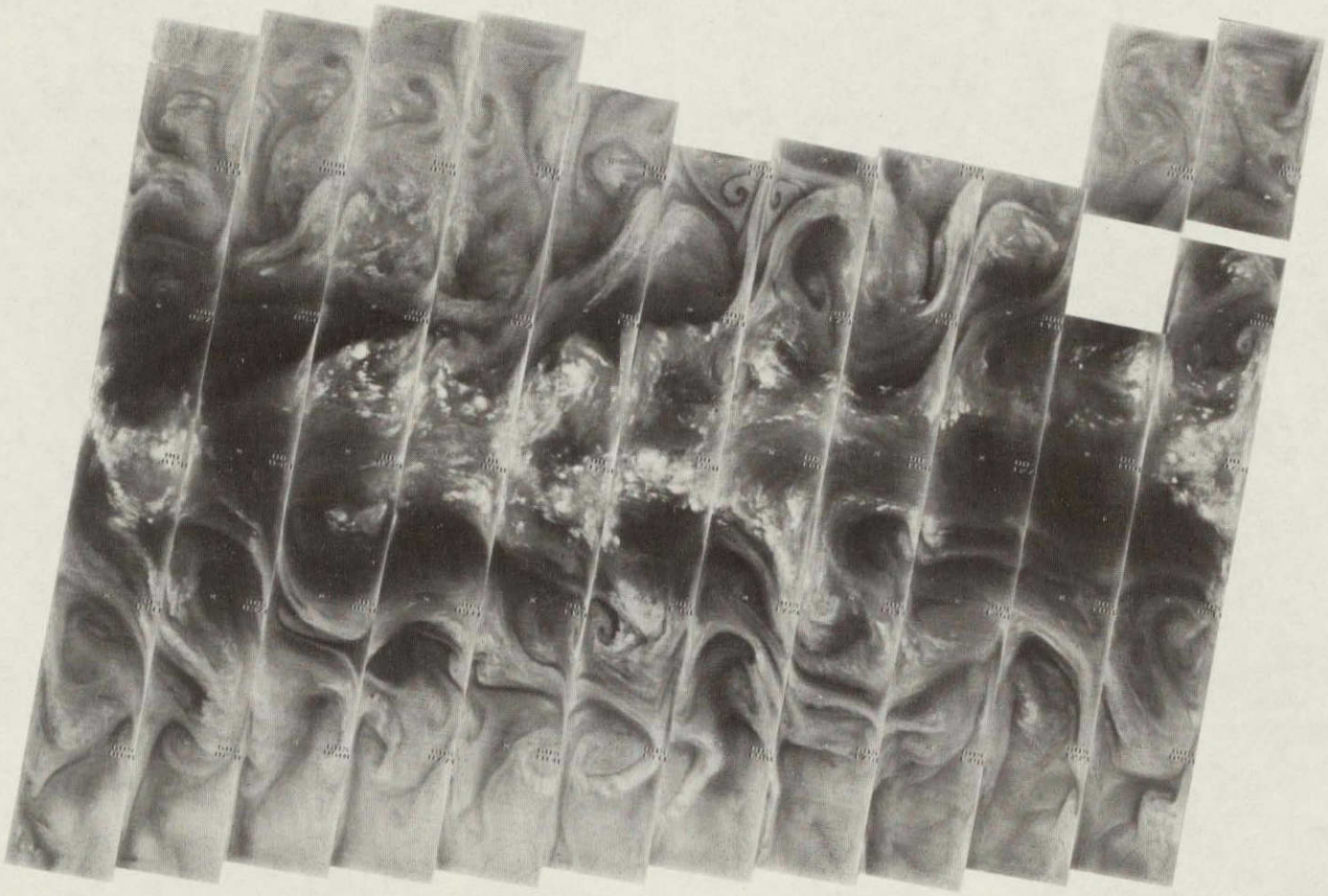
6.7 μm



1873 1872 1871 1870 1869 1868 1867 1866 1865 1864 1863 1862 1861 1860

29 OCTOBER 1975

11.5 μm



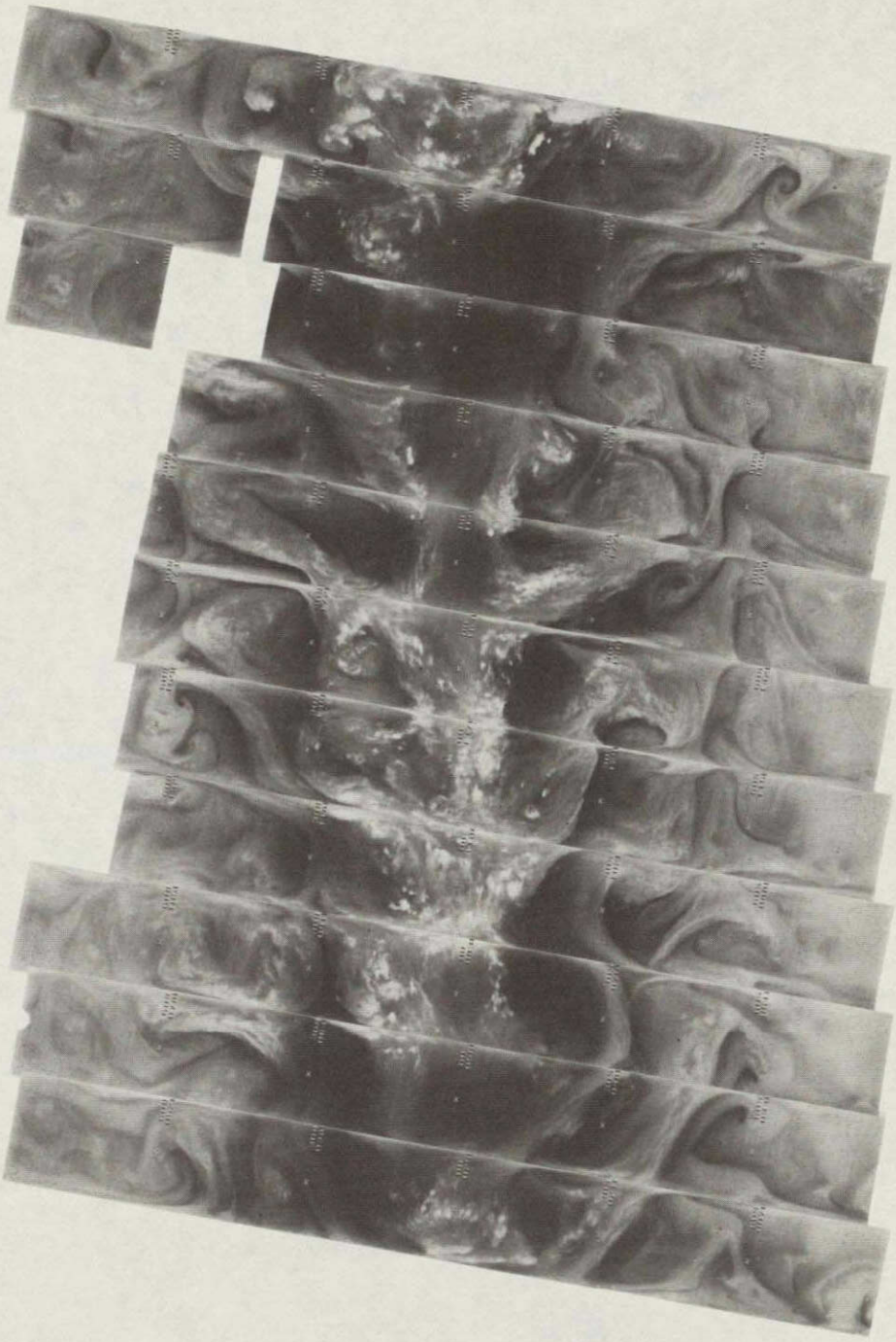
1873 1872 1871 1870 1869 1868 1867 1866 1865 1864 1863 1862 1861 1860

29 OCTOBER 1975

6.7 μm

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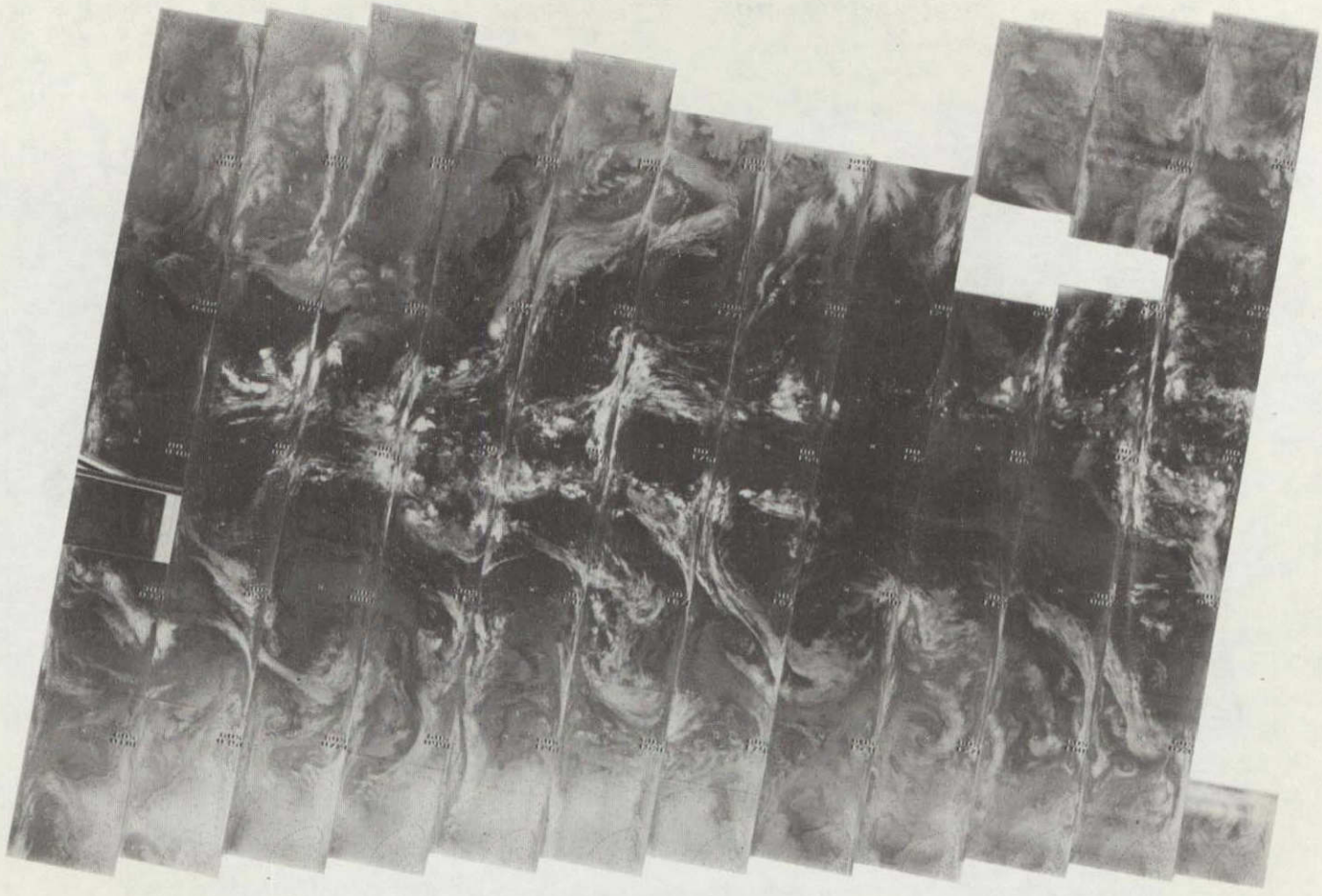


1886 1885 1884 1883 1882 1881 1880 1879 1878 1877 1876 1875 1874

30 OCTOBER 1975

6.7 μm

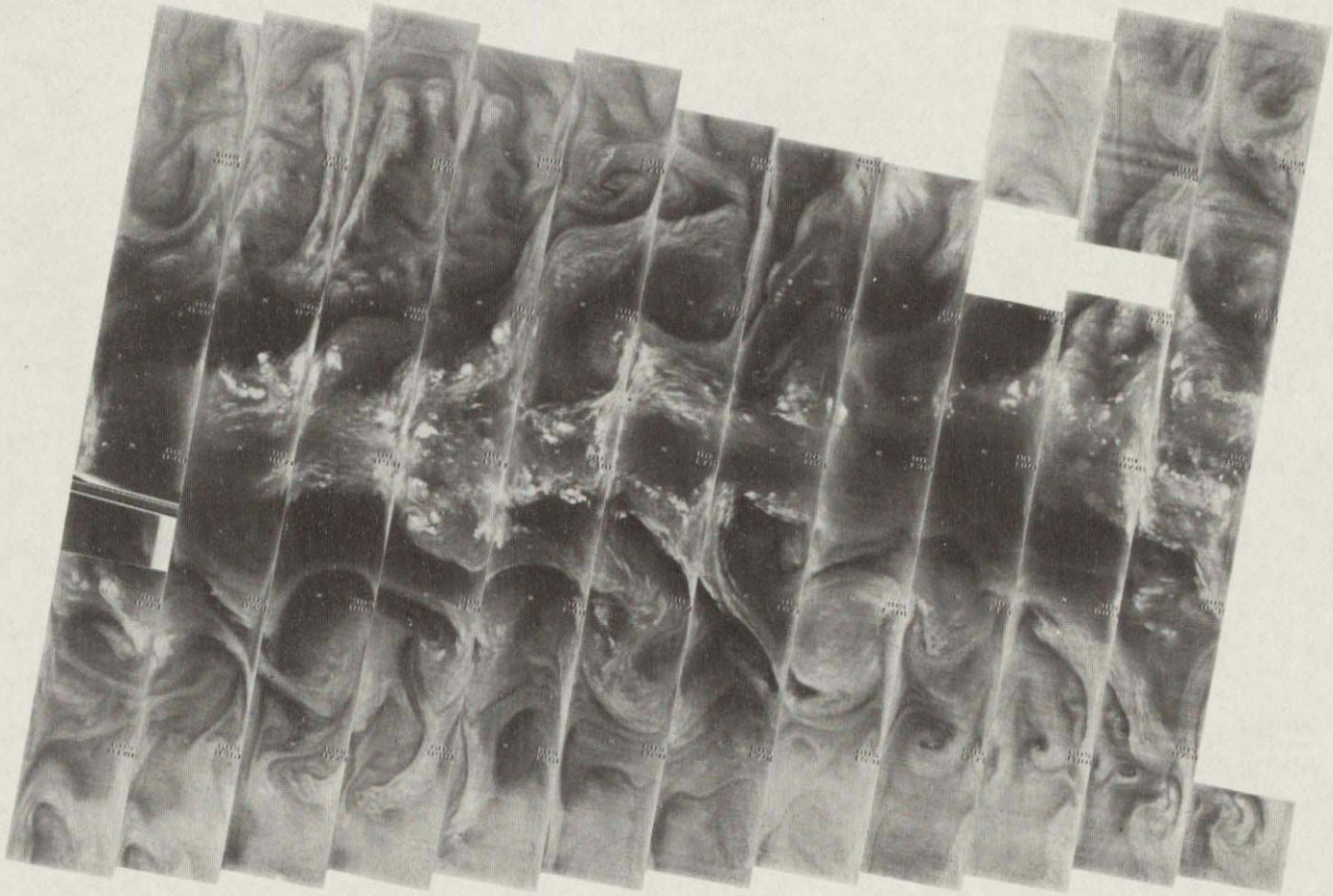
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OF POOR QUALITY



1900 1899 1898 1897 1896 1895 1894 1893 1892 1891 1890 1889 1888 1887

31 OCTOBER 1975

11.5 μm



1900 1899 1898 1897 1896 1895 1894 1893 1892 1891 1890 1889 1888 1887

31 OCTOBER 1975

6.7 μm

SECTION 4.2

TEMPERATURE HUMIDITY INFRARED RADIOMETER

DAYTIME MONTAGES



1095 1094 1093 1092 1091 1090 1089 1088 1087 1086 1085 1084 1083

1 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY

1095 1094 1093 1092 1091 1090 1089 1088 1087 1086 1085 1084 1083

1 SEPTEMBER 1975

6.7 μm

1109 1108 1107 1106 1105 1104 1103 1102 1101 1100 1099 1098 1097 1096

2 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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ORIGINAL PAGE IS
OF POOR QUALITY

1109 1108 1107 1106 1105 1104 1103 1102 1101 1100 1099 1098 1097 1096

2 SEPTEMBER 1975

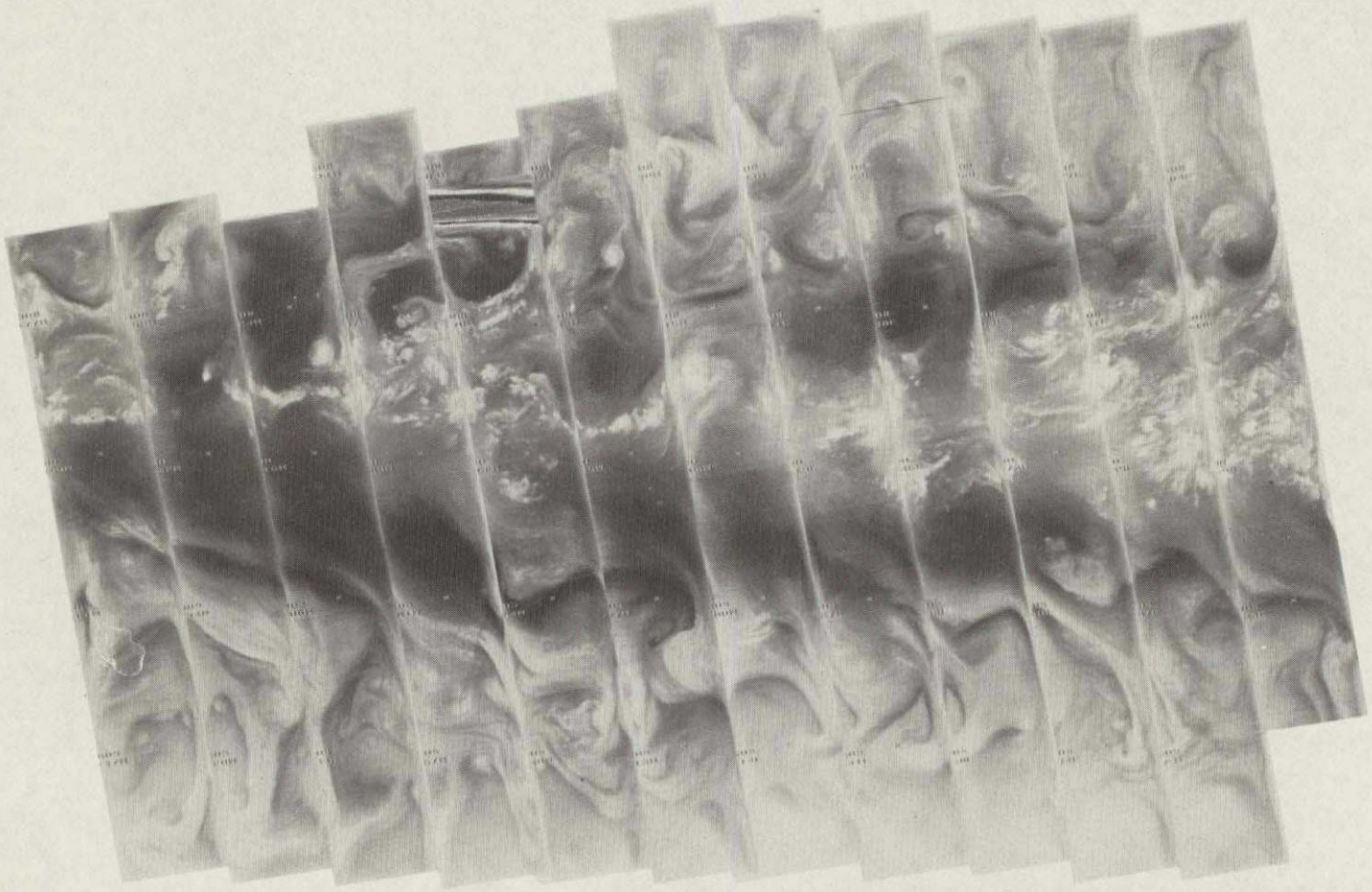
6.7 μm



1122 1121 1120 1119 1118 1117 1116 1115 1114 1113 1112 1111 1110

3 SEPTEMBER 1975

11.5 μm



1122 1121 1120 1119 1118 1117 1116 1115 1114 1113 1112 1111 1110

3 SEPTEMBER 1975

6.7 μm

1135 1134 1133 1132 1131 1130 1129 1128 1127 1126 1125 1124 1123

4 SEPTEMBER 1975

11.5 μm

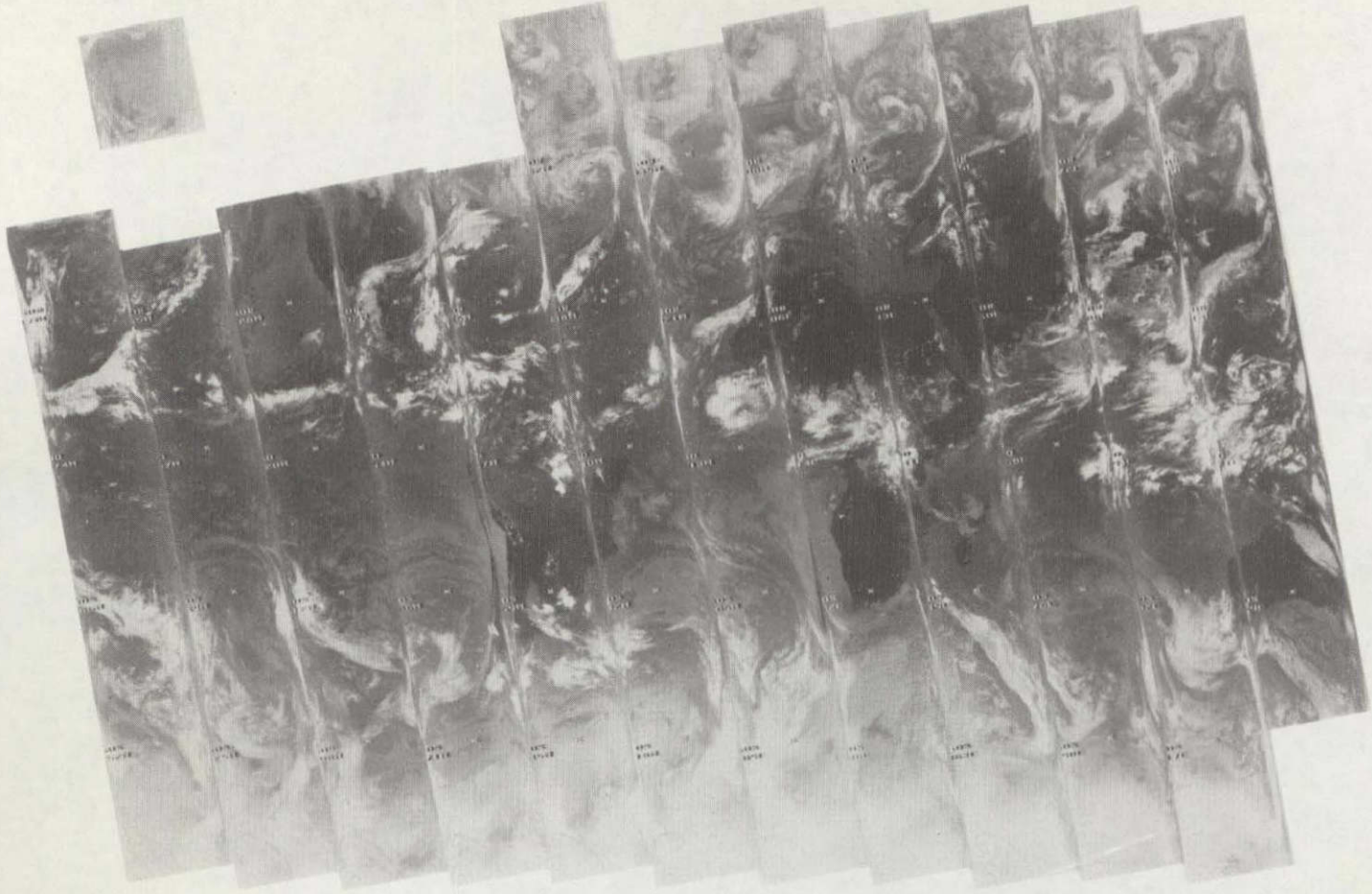
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ORIGINAL PAGE IS
OF POOR QUALITY

1135 1134 1133 1132 1131 1130 1129 1128 1127 1126 1125 1124 1123

4 SEPTEMBER 1975

6.7 μm



1149 1148 1147 1146 1145 1144 1143 1142 1141 1140 1139 1138 1137 1136

5 SEPTEMBER 1975

11.5 μm

1149 1148 1147 1146 1145 1144 1143 1142 1141 1140 1139 1138 1137 1136

5 SEPTEMBER 1975

6.7 μm

ORIGINAL PAGE IS
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1162 1161 1160 1159 1158 1157 1156 1155 1154 1153 1152 1151 1150

6 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY

1162 1161 1160 1159 1158 1157 1156 1155 1154 1153 1152 1151 1150

6 SEPTEMBER 1975

6.7 μm

1176 1175 1174 1173 1172 1171 1170 1769 1768 1767 1766 1765 1764 1763

7 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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ORIGINAL PAGE IS
OF POOR QUALITY

1176 1175 1174 1173 1172 1171 1170 1769 1768 1767 1766 1765 1764 1763

7 SEPTEMBER 1975

6.7 μm



1189 1188 1187 1186 1185 1184 1183 1182 1181 1180 1179 1178 1177

8 SEPTEMBER 1975

11.5 μm

1189 1188 1187 1186 1185 1184 1183 1182 1181 1180 1179 1178 1177

8 SEPTEMBER 1975

6.7 μm

ORIGINAL PAGE IS
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1202 1201 1200 1199 1198 1197 1196 1195 1194 1193 1192 1191 1190

9 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY

1202 1201 1200 1199 1198 1197 1196 1195 1194 1193 1192 1191 1190

9 SEPTEMBER 1975

6.7 μm



1216 1215 1214 1213 1212 1211 1210 1209 1208 1207 1206 1205 1204 1203

10 SEPTEMBER 1975

11.5 μm

1216 1215 1214 1213 1212 1211 1210 1209 1208 1207 1206 1205 1204 1203

10 SEPTEMBER 1975

6.7 μm

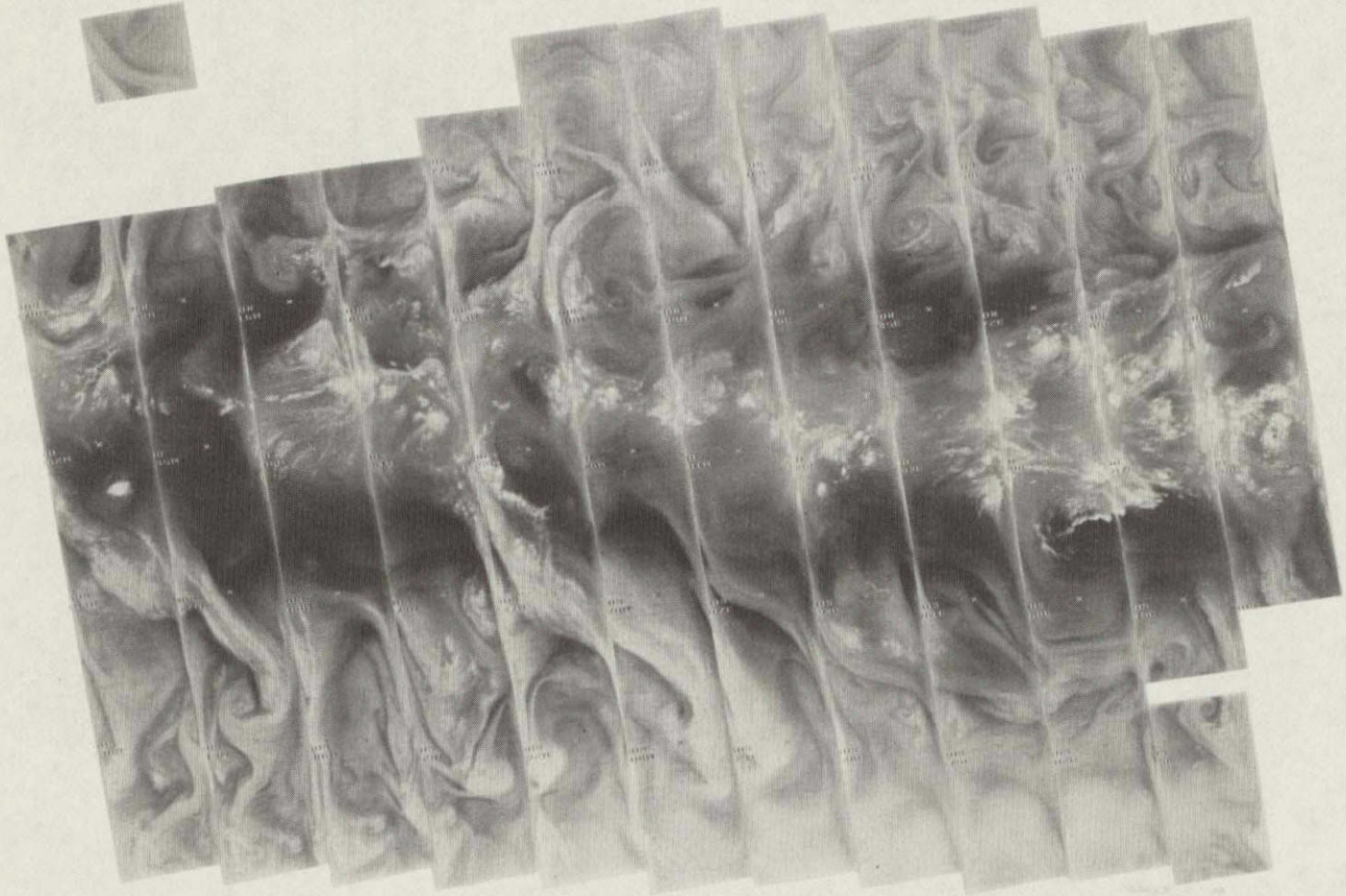
ORIGINAL PAGE IS
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1229 1228 1227 1226 1225 1224 1223 1222 1221 1220 1219 1218 1217

11 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY



1229 1228 1227 1226 1225 1224 1223 1222 1221 1220 1219 1218 1217

11 SEPTEMBER 1975

6.7 μm

1243 1242 1241 1240 1239 1238 1237 1236 1235 1234 1233 1232 1231 1230

12 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

1243 1242 1241 1240 1239 1238 1237 1236 1235 1234 1233 1232 1231 1230

12 SEPTEMBER 1975

6.7 μm



1256 1255 1254 1253 1252 1251 1250 1249 1248 1247 1246 1245 1244

13 SEPTEMBER 1975

11.5 μm

1256 1255 1254 1253 1252 1251 1250 1249 1248 1247 1246 1245 1244

13 SEPTEMBER 1975

6.7 μm

1270 1269 1268 1267 1266 1265 1264 1263 1262 1261 1260 1259 1258 1257

14 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

1270 1269 1268 1267 1266 1265 1264 1263 1262 1261 1260 1259 1258 1257

14 SEPTEMBER 1975

6.5 μm



1283 1282 1281 1280 1279 1278 1277 1276 1275 1274 1273 1272 1271

15 SEPTEMBER 1975

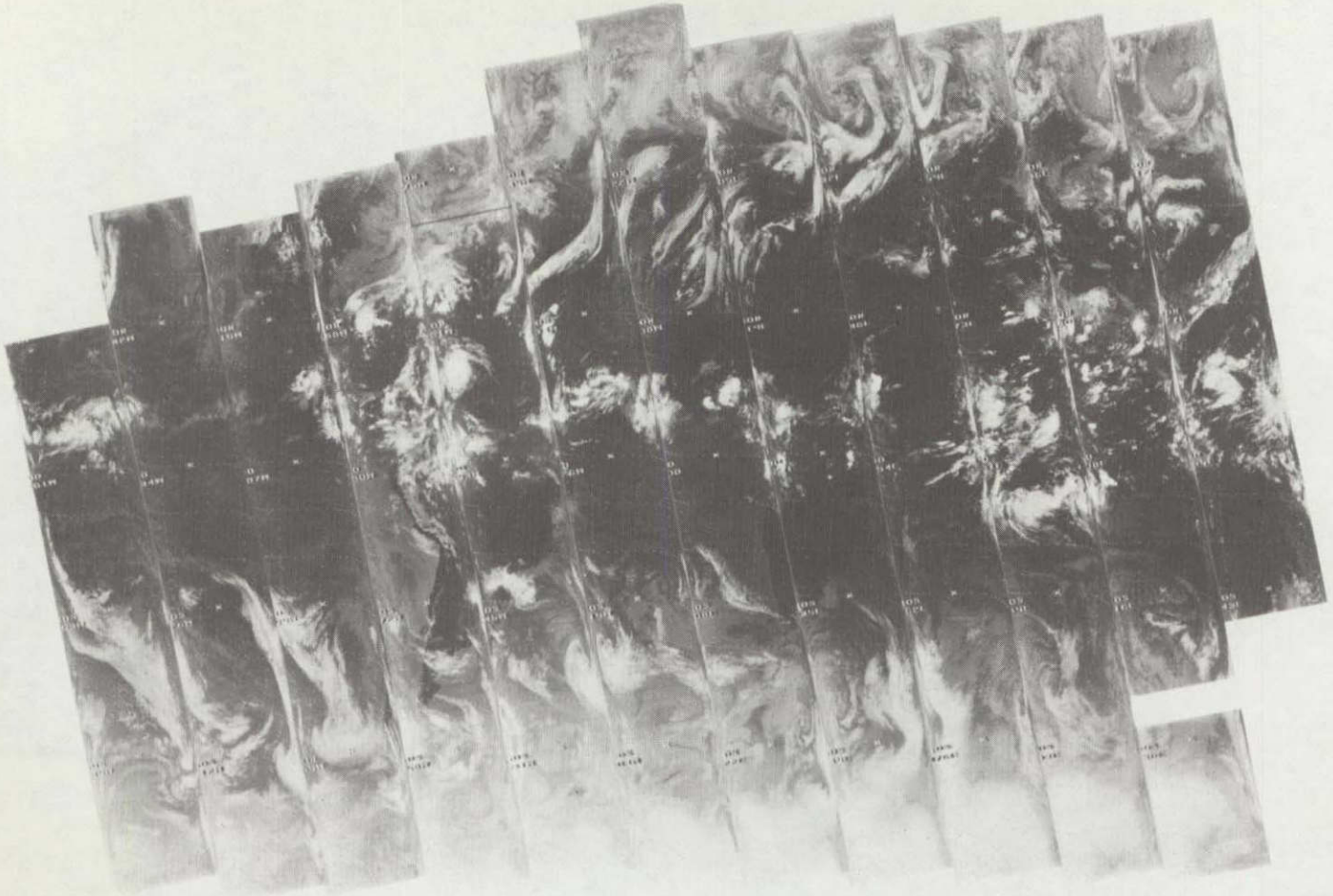
11.5 μm

1283 1282 1281 1280 1279 1278 1277 1276 1275 1274 1273 1272 1271

15 SEPTEMBER 1975

6.7 μm

ORIGINAL PAGE IS
OF POOR QUALITY



1296 1295 1294 1293 1292 1291 1290 1289 1288 1287 1286 1285 1284

16 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY

1296 1295 1294 1293 1292 1291 1290 1289 1288 1287 1286 1285 1284

16 SEPTEMBER 1975

6.7 μm

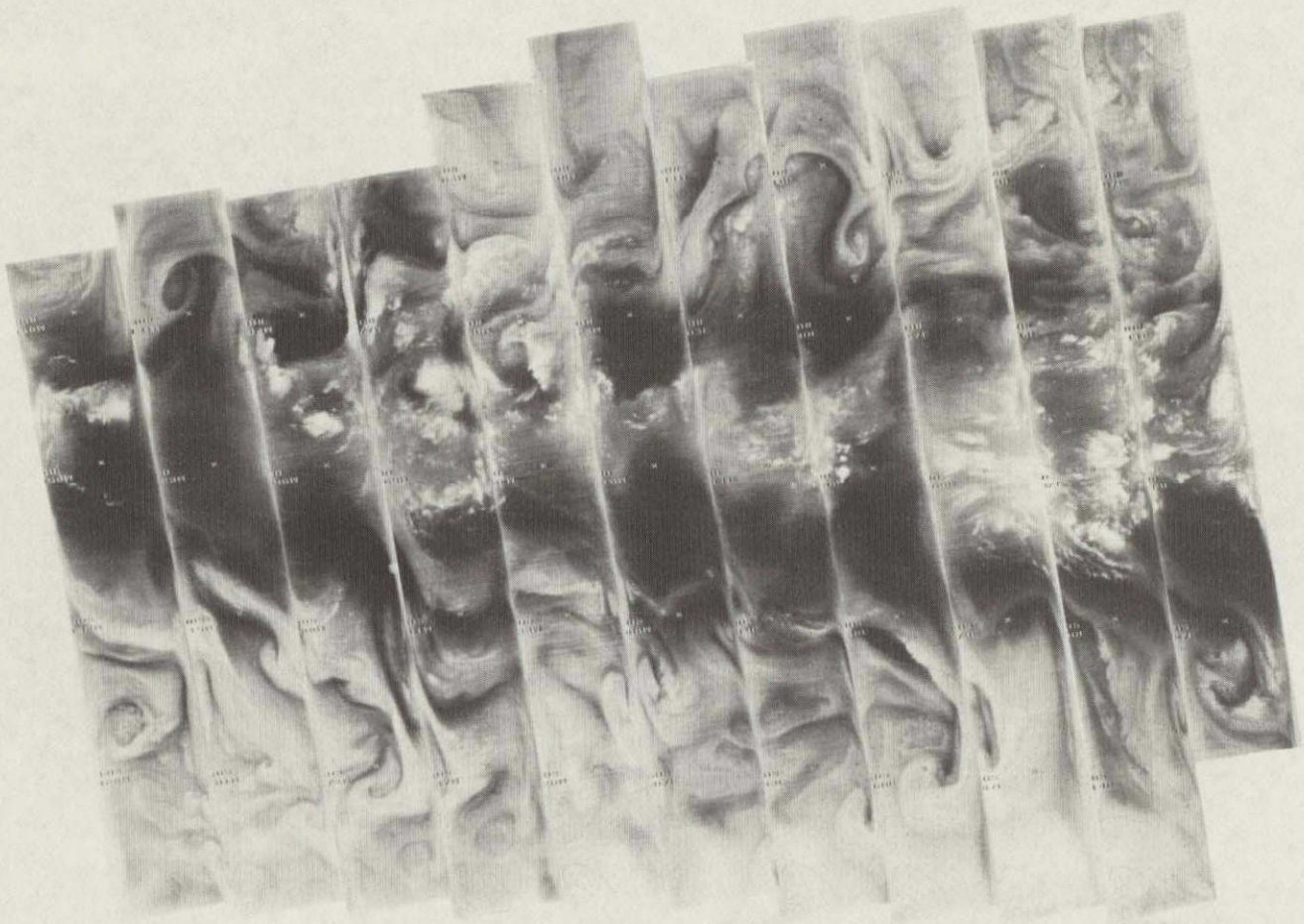
1310 1309 1308 1307 1306 1305 1304 1303 1302 1301 1300 1299 1298 1297

17 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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1310 1309 1308 1307 1306 1305 1304 1303 1302 1301 1300 1299 1298 1297

17 SEPTEMBER 1975

6.7 μm



1323 1322 1321 1320 1319 1318 1317 1316 1315 1314 1313 1312 1311

18 SEPTEMBER 1975

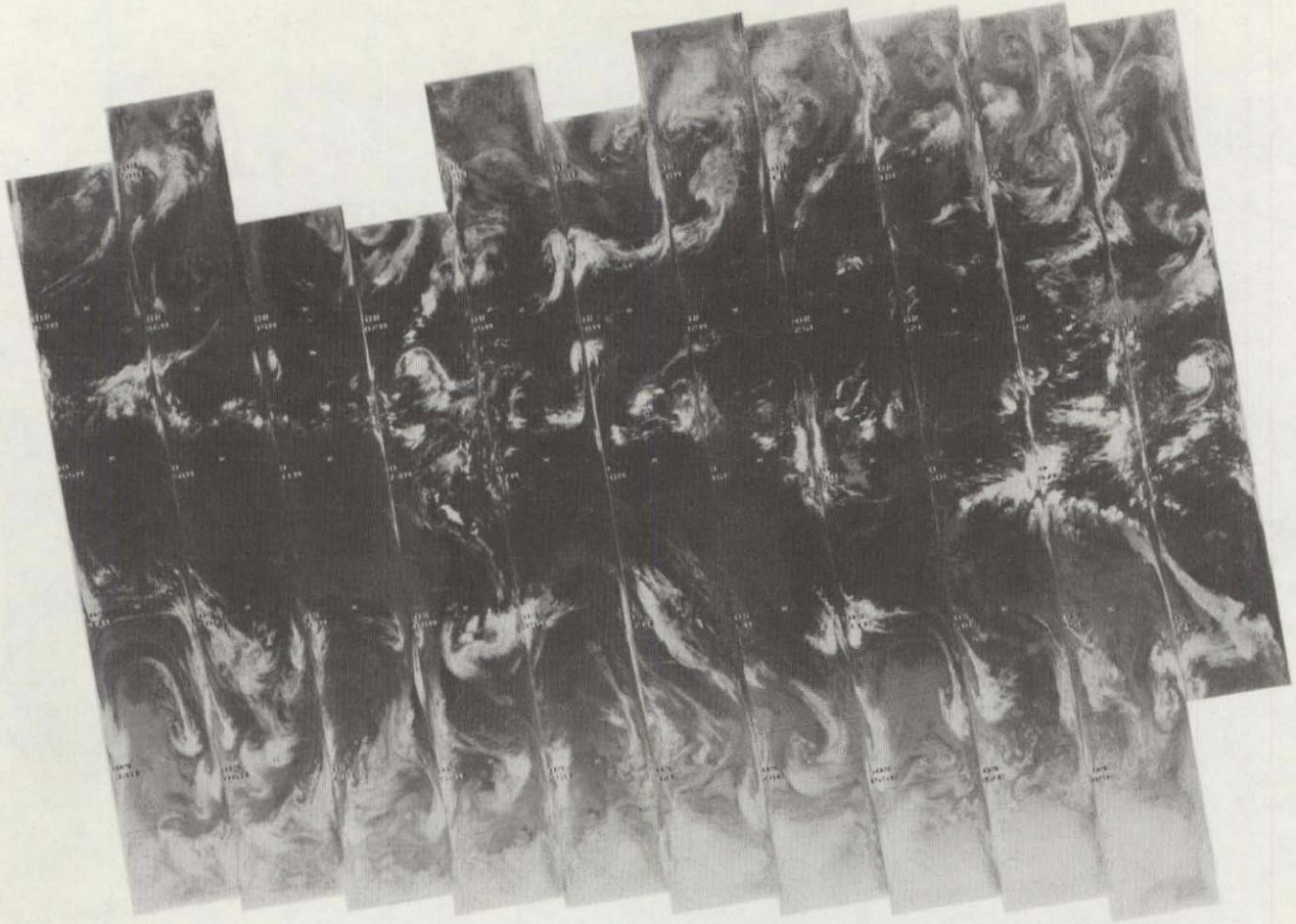
11.5 μm

1323 1322 1321 1320 1319 1318 1317 1316 1315 1314 1313 1312 1311

18 SEPTEMBER 1975

6.7 μm

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1337 1336 1335 1334 1333 1332 1331 1330 1329 1328 1327 1326 1325 1324

19 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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1337 1336 1335 1334 1333 1332 1331 1330 1329 1328 1327 1326 1325 1324

19 SEPTEMBER 1975

6.7 μm



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20 SEPTEMBER 1975

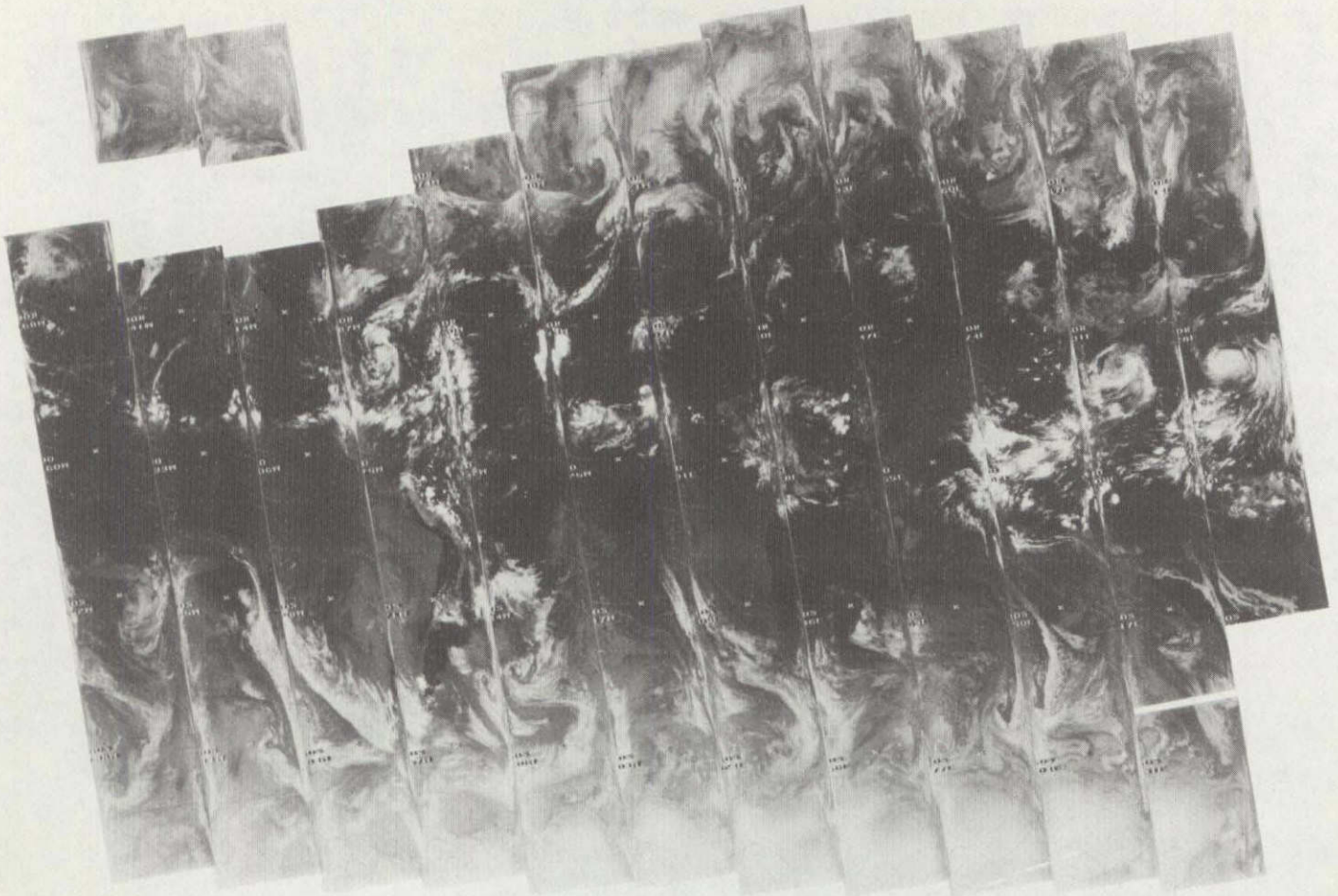
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1350 1349 1348 1347 1346 1345 1344 1343 1342 1341 1340 1339 1338

20 SEPTEMBER 1975

6.7 μm

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1363 1362 1361 1360 1359 1358 1357 1356 1355 1354 1353 1352 1351

21 SEPTEMBER 1975

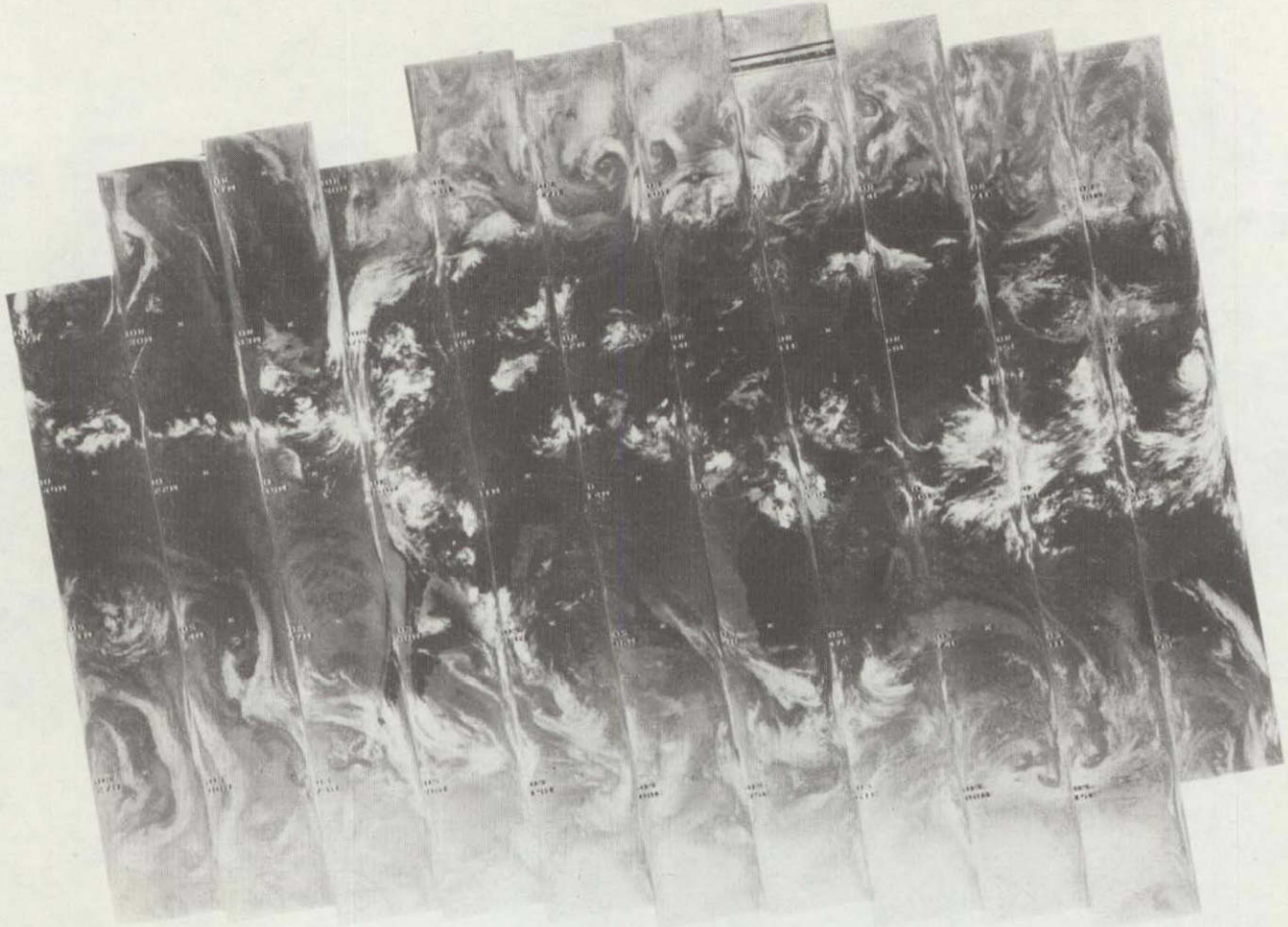
11.5 μm

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1363 1362 1361 1360 1359 1358 1357 1356 1355 1354 1353 1352 1351

21 SEPTEMBER 1975

6.7 μm



1377 1376 1375 1374 1373 1372 1371 1370 1369 1368 1367 1366 1365 1364

22 SEPTEMBER 1975

11.5 μm

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22 SEPTEMBER 1975

6.7 μm

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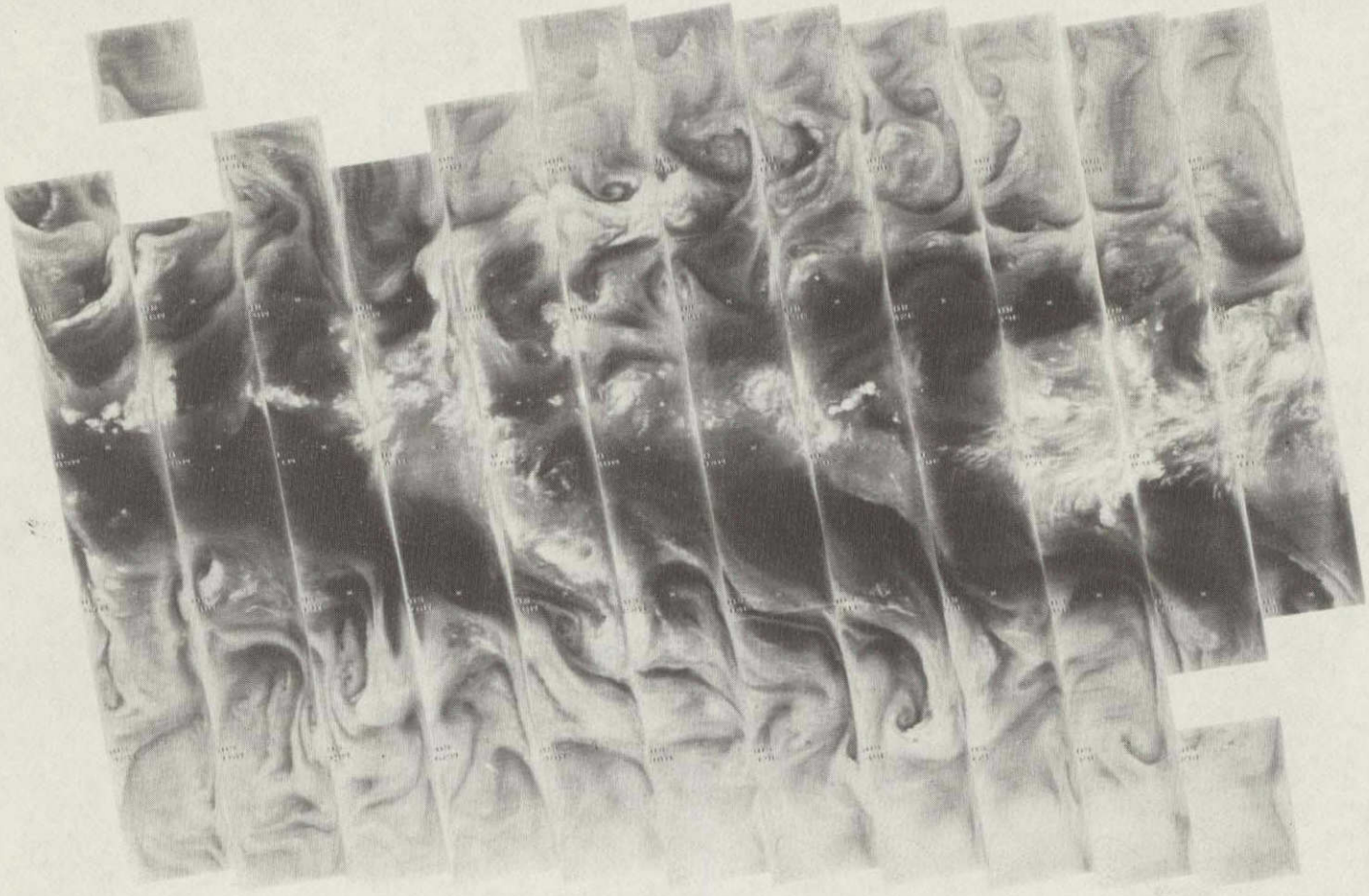


1390 1389 1388 1387 1386 1385 1384 1383 1382 1381 1380 1379 1378

23 SEPTEMBER 1975

11.5 μm

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1390 1389 1388 1387 1386 1385 1384 1383 1382 1381 1380 1379 1378

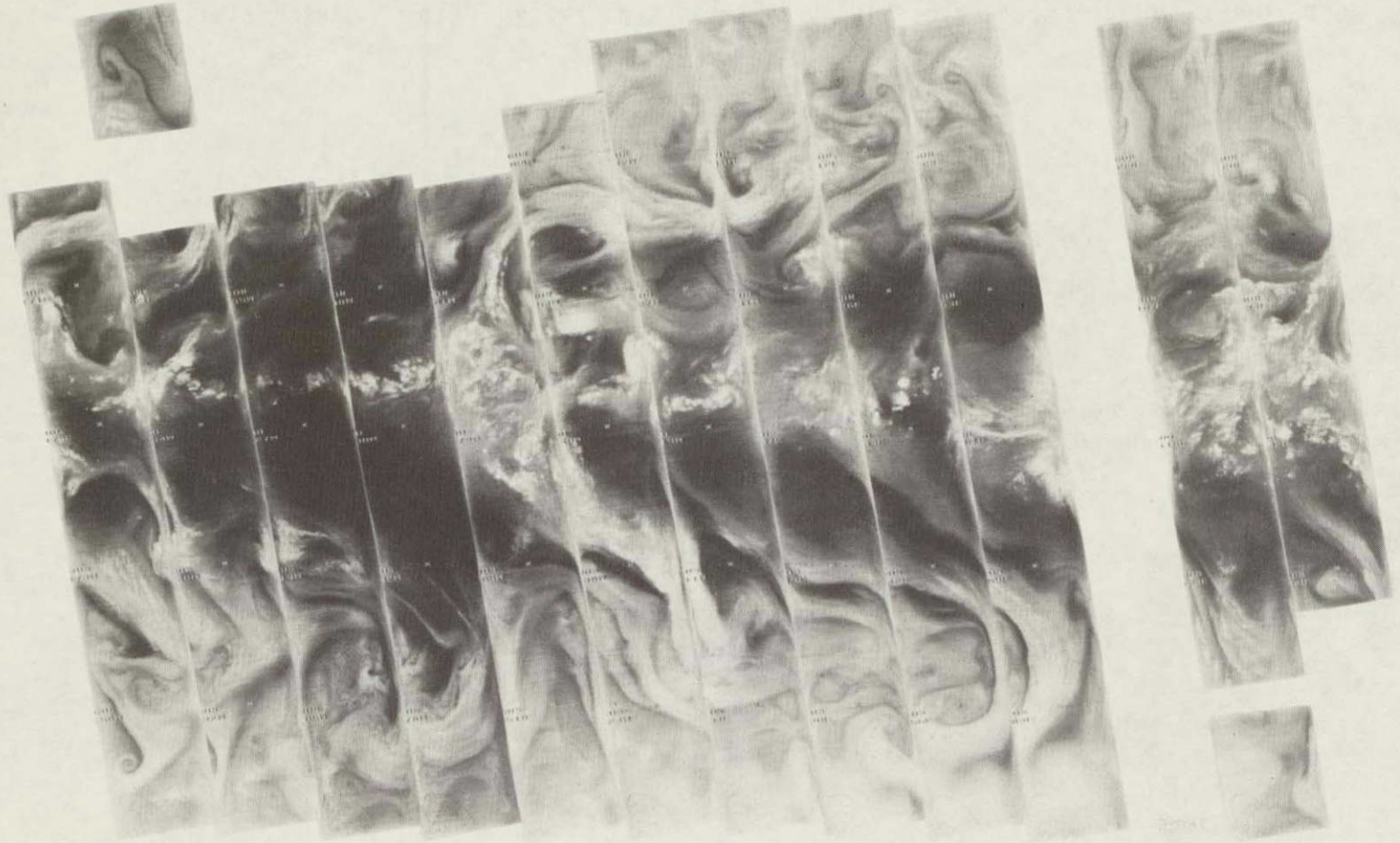
23 SEPTEMBER 1975

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1404 1403 1402 1401 1400 1399 1398 1397 1396 1395 1394 1393 1392 1391

24 SEPTEMBER 1975

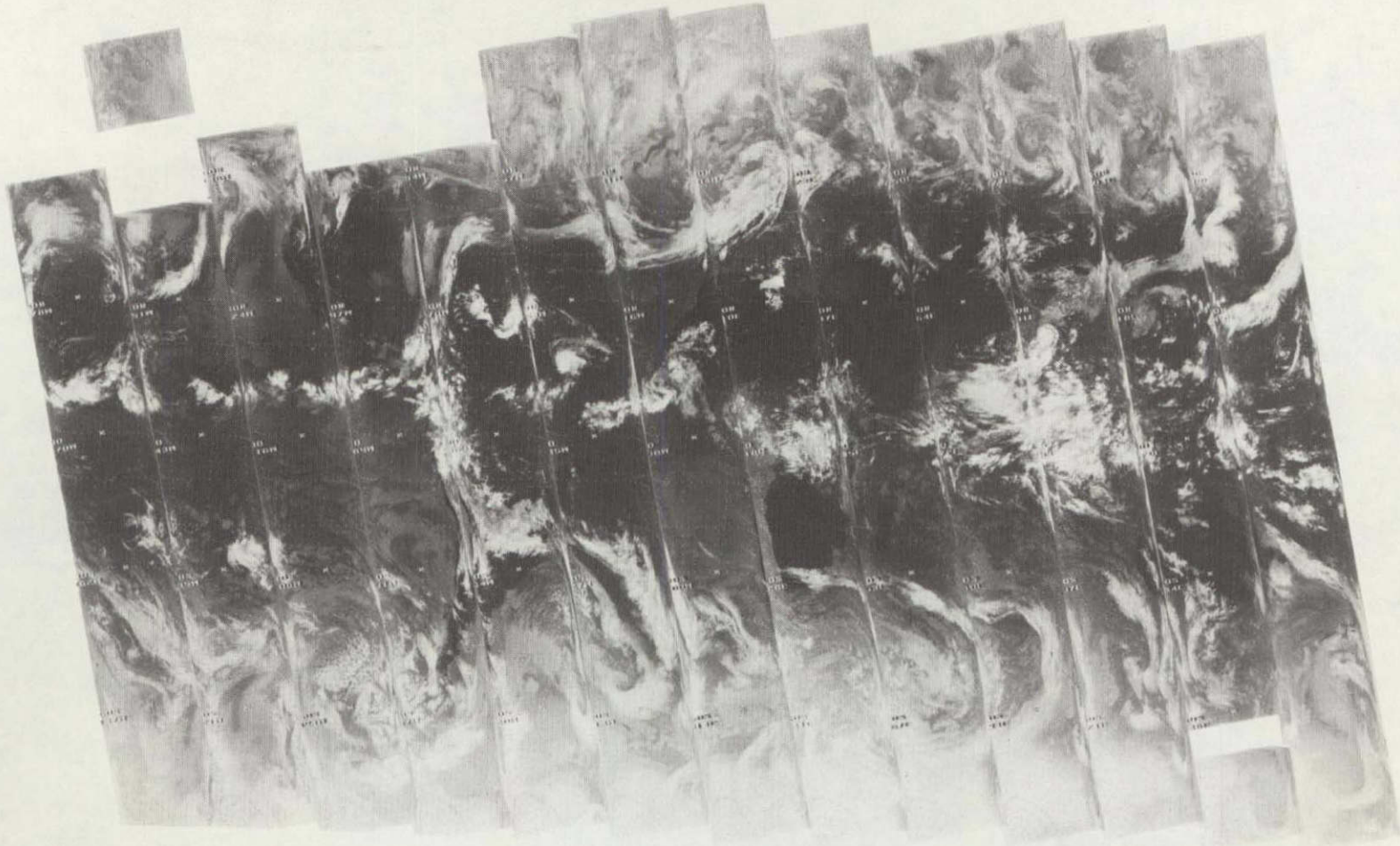
11.5 μm



1404 1403 1402 1401 1400 1399 1398 1397 1396 1395 1394 1393 1392 1391

24 SEPTEMBER 1975

6.7 μm



1417 1416 1415 1414 1413 1412 1411 1410 1409 1408 1407 1406 1405

25 SEPTEMBER 1975

11.5 μm

1417 1416 1415 1414 1413 1412 1411 1410 1409 1408 1407 1406 1405

25 SEPTEMBER 1975

6.7 μm

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1430 1429 1428 1427 1426 1425 1424 1423 1422 1421 1420 1419 1418

26 SEPTEMBER 1975

11.5 μm

ORIGINAL PAGE IS
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1430 1429 1428 1427 1426 1425 1424 1423 1422 1421 1420 1419 1418

26 SEPTEMBER 1975

6.7 μm

1444 1443 1442 1441 1440 1439 1438 1437 1436 1435 1434 1433 1432 1431

27 SEPTEMBER 1975

11.5 μm

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ORIGINAL PAGE IS
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1444 1443 1442 1441 1440 1439 1438 1437 1436 1435 1434 1433 1432 1431

27 SEPTEMBER 1975

6.7 μm

1457 1456 1455 1454 1453 1452 1451 1450 1449 1448 1447 1446 1445

28 SEPTEMBER 1975

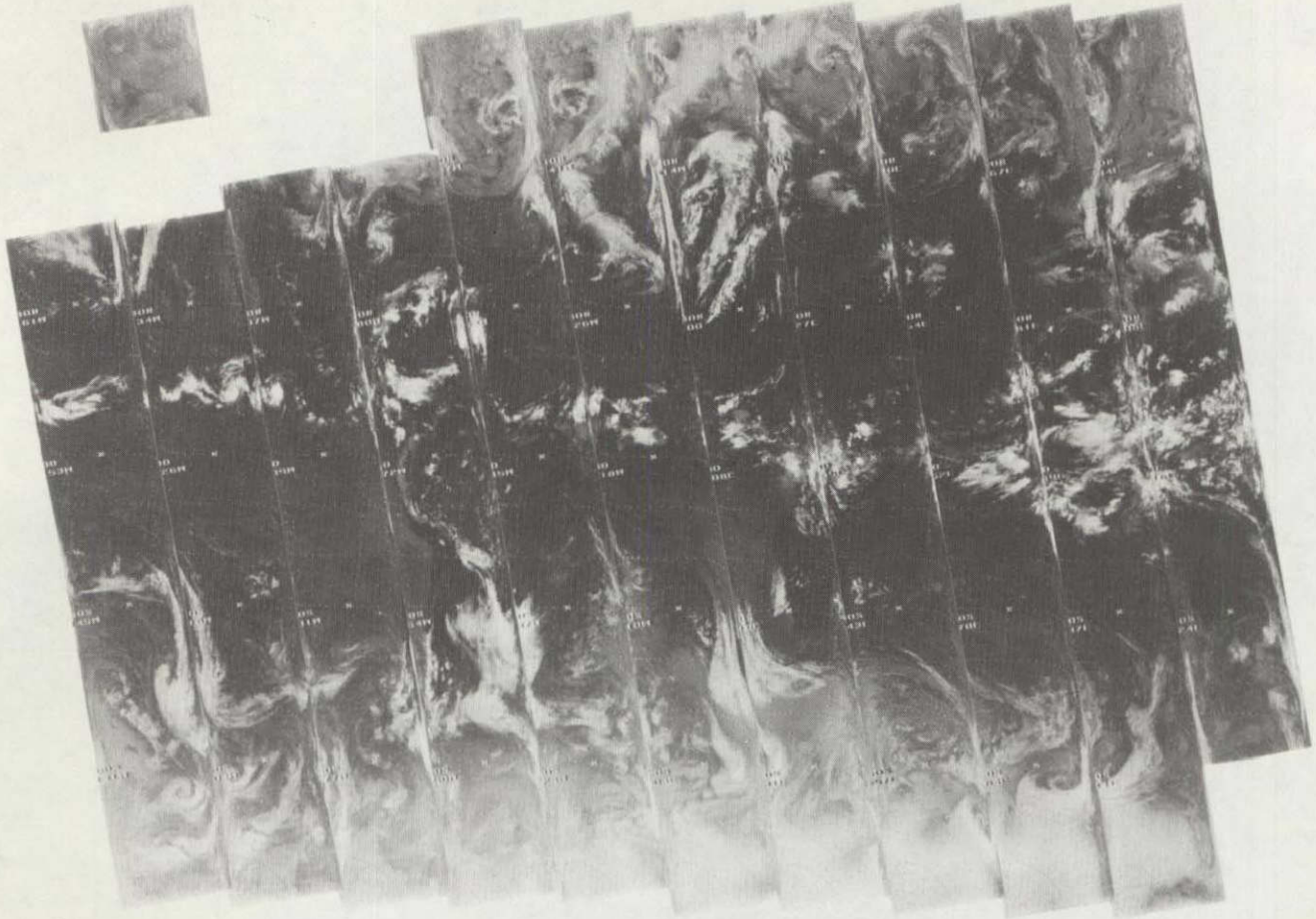
11.5 μm

1457 1456 1455 1454 1453 1452 1451 1450 1449 1448 1447 1446 1445

28 SEPTEMBER 1975

6.7 μm

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1471 1470 1469 1468 1467 1466 1465 1464 1463 1462 1461 1460 1459 1458

29 SEPTEMBER 1975

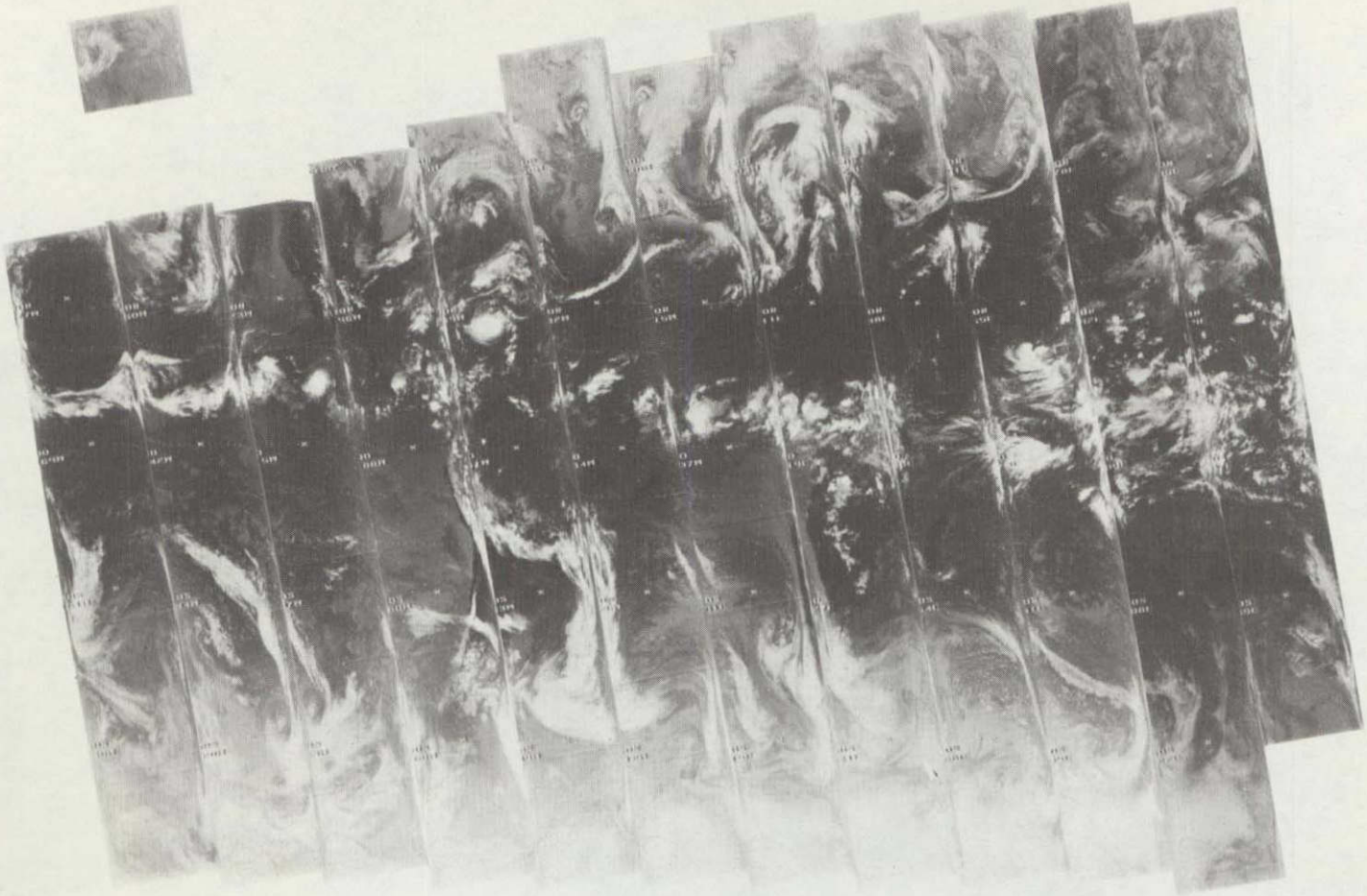
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1471 1470 1469 1468 1467 1466 1465 1464 1463 1462 1461 1460 1459 1458

29 SEPTEMBER 1975

6.7 μm



1484 1483 1482 1481 1480 1479 1478 1477 1476 1475 1474 1473 1472

30 SEPTEMBER 1975

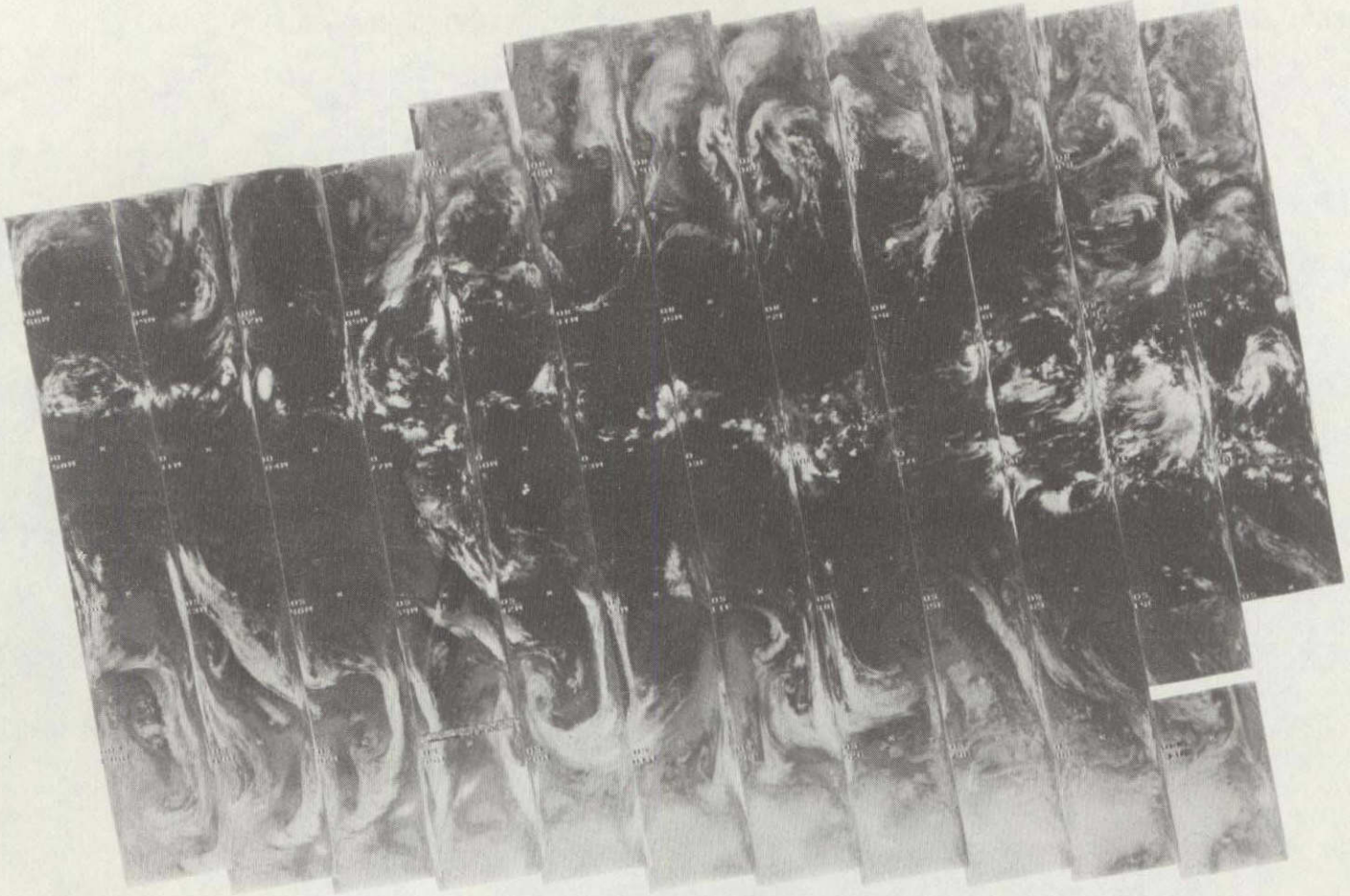
11.5 μm

1484 1483 1482 1481 1480 1479 1478 1477 1476 1475 1474 1473 1472

30 SEPTEMBER 1975

6.7 μm

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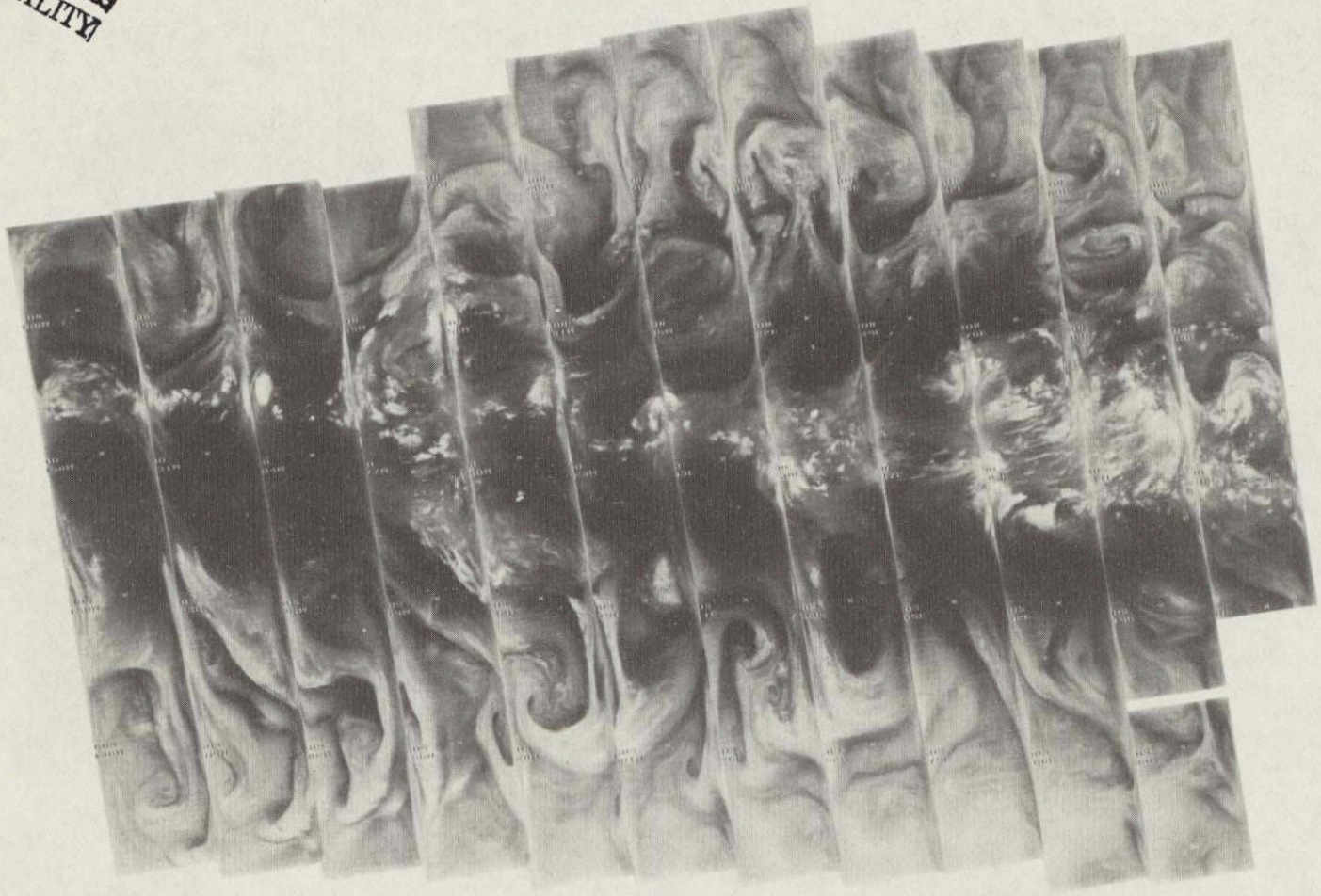


1497 1496 1495 1494 1493 1492 1491 1490 1489 1488 1487 1486 1485

1 OCTOBER 1975

11.5 μm

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1497 1496 1495 1494 1493 1492 1491 1490 1489 1488 1487 1486 1485

1 OCTOBER 1975

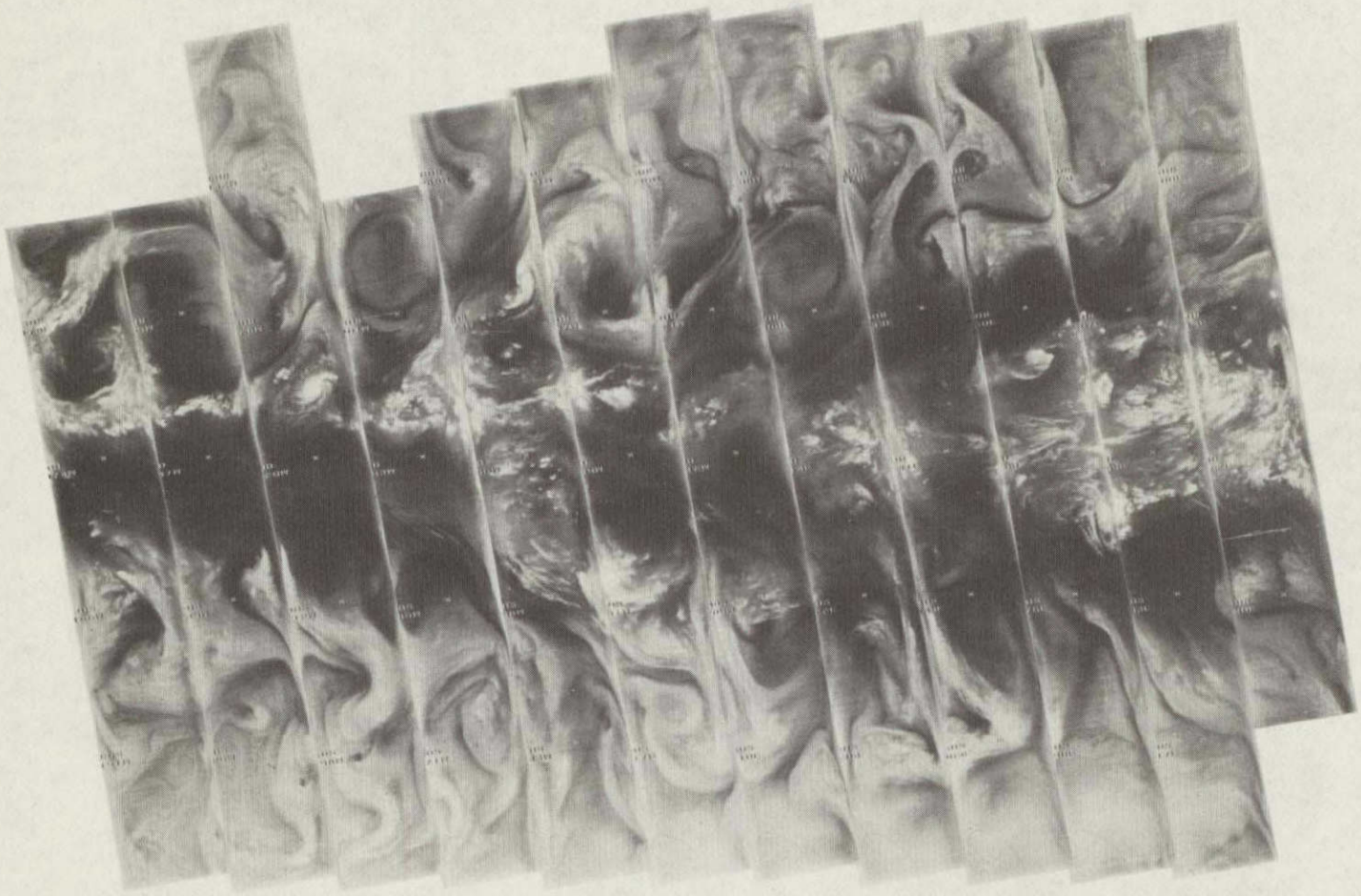
6.7 μm



1511 1510 1509 1508 1507 1506 1505 1504 1503 1502 1501 1500 1499 1498

2 OCTOBER 1975

11.5 μm



1511 1510 1509 1508 1507 1506 1505 1504 1503 1502 1501 1500 1499 1498

2 OCTOBER 1975

6.7 μm

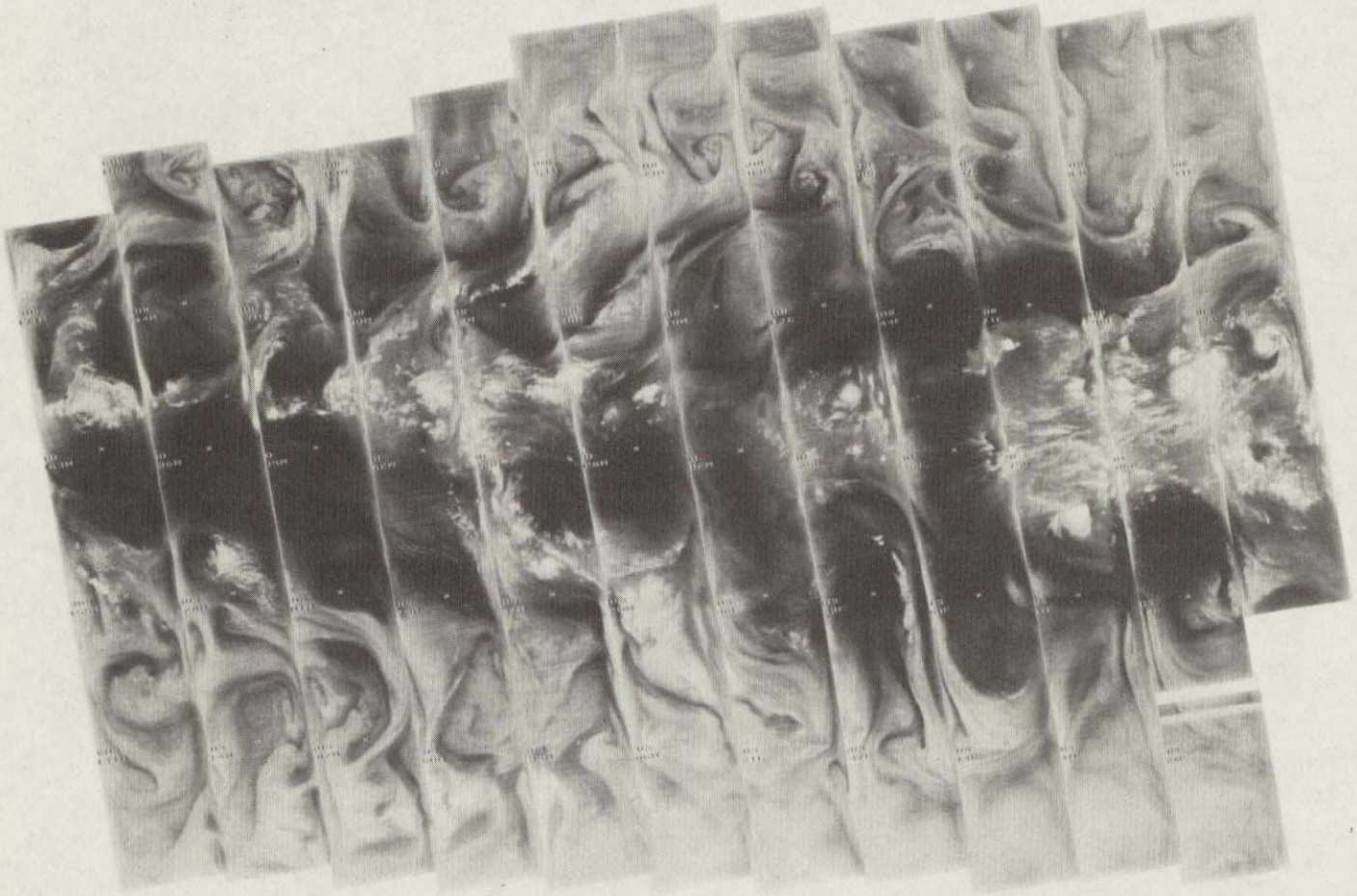
1524 1523 1522 1521 1520 1519 1518 1517 1516 1515 1514 1513 1512

3 OCTOBER 1975

11.5 μm

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ORIGINAL PAGE IS
OF POOR QUALITY



1524 1523 1522 1521 1520 1519 1518 1517 1516 1515 1514 1513 1512

3 OCTOBER 1975

6.7 μm



1538 1537 1536 1535 1534 1533 1532 1531 1530 1529 1528 1527 1526 1525

4 OCTOBER 1975

11.5 μm

1538 1537 1536 1535 1534 1533 1532 1531 1530 1529 1528 1527 1526 1525

4 OCTOBER 1975

6.7 μm

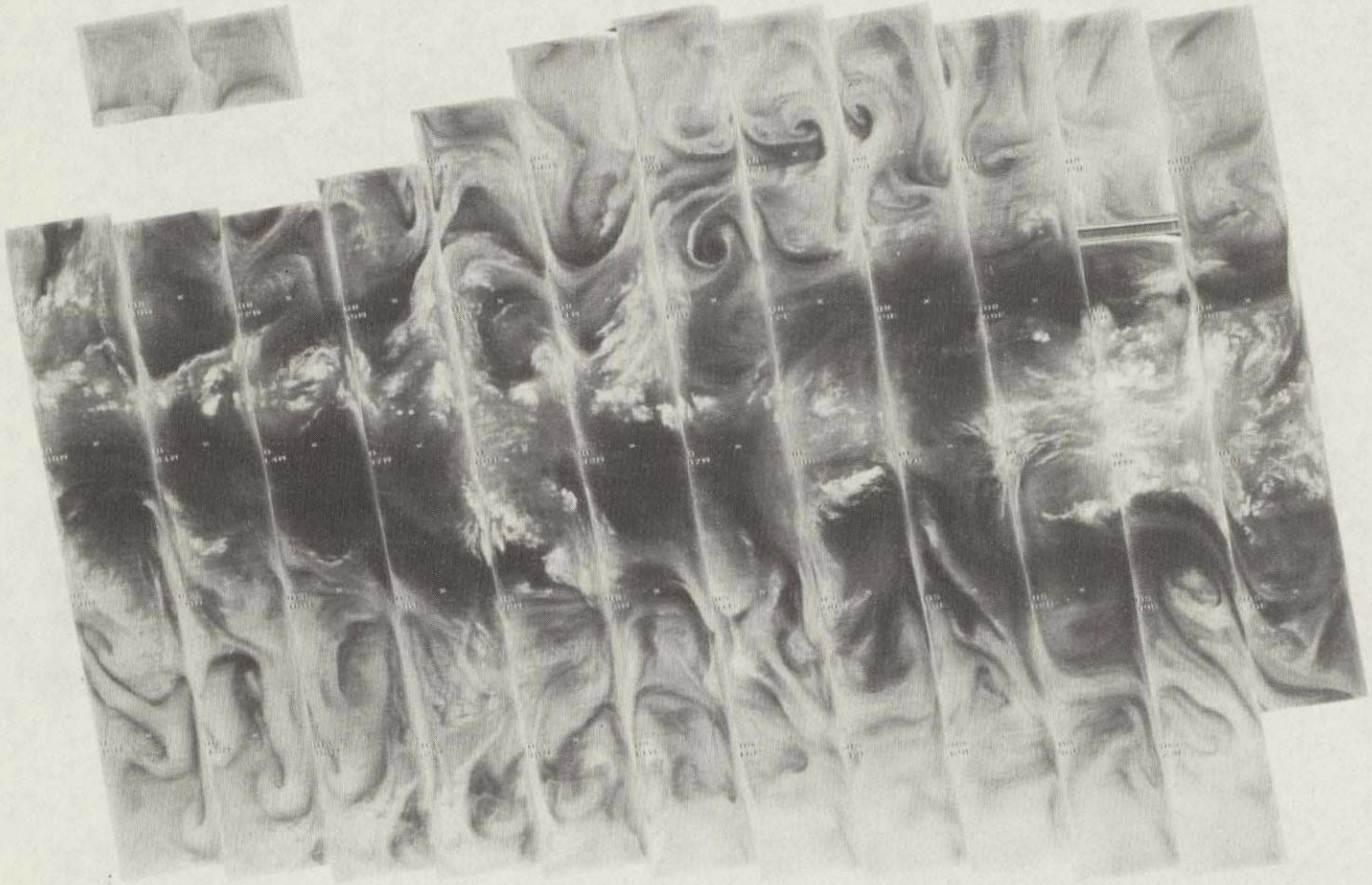
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1551 1550 1549 1548 1547 1546 1545 1544 1543 1542 1541 1540 1539

5 OCTOBER 1975

11.5 μm



1551 1550 1549 1548 1547 1546 1545 1544 1543 1542 1541 1540 1539

5 OCTOBER 1975

6.7 μm

1565 1564 1563 1562 1561 1560 1559 1558 1557 1556 1555 1554 1553 1552

6 OCTOBER 1975

11.5 μm

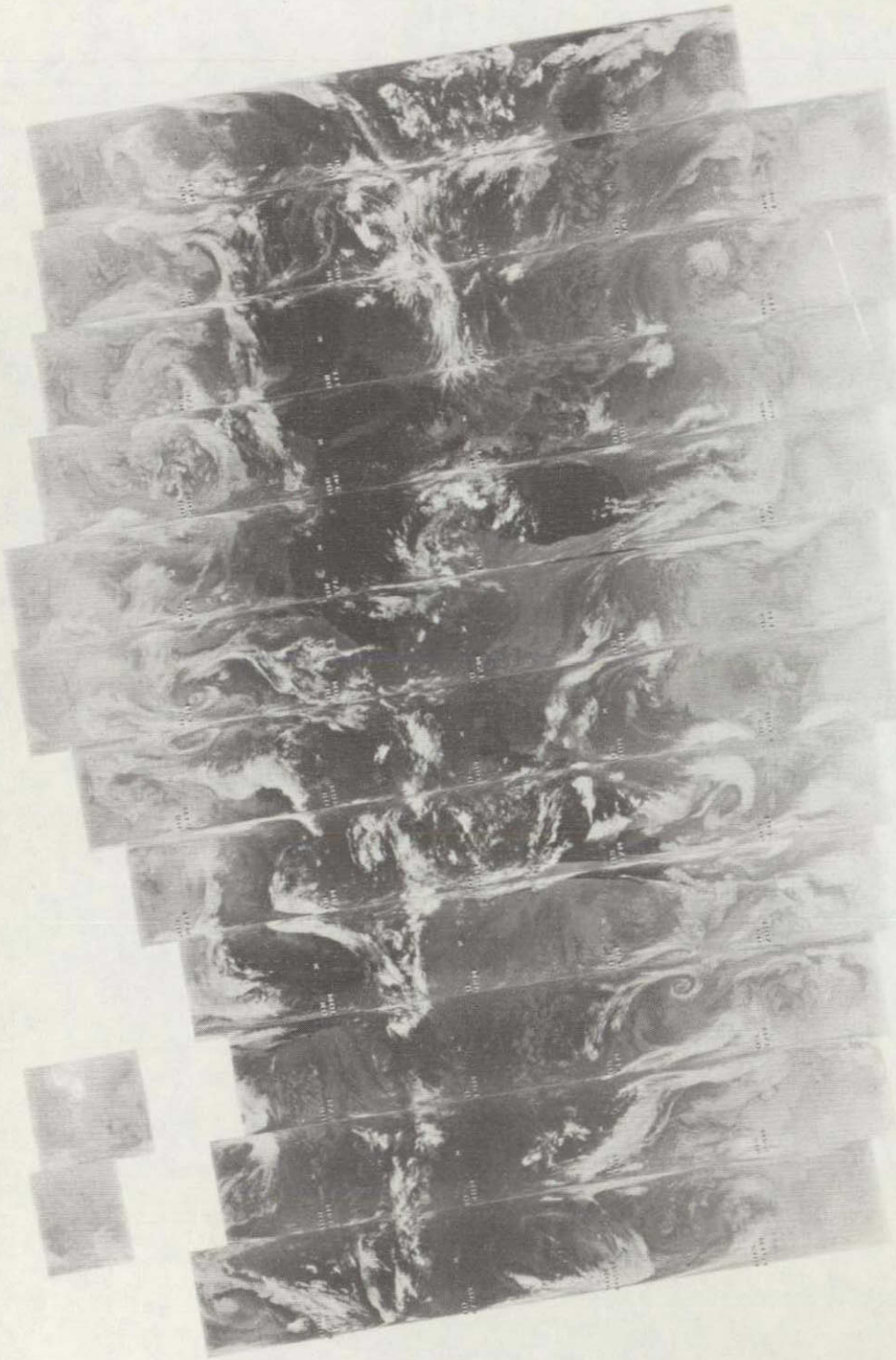
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1565 1564 1563 1562 1561 1560 1559 1558 1557 1556 1555 1554 1553 1552

6 OCTOBER 1975

6.7 μm

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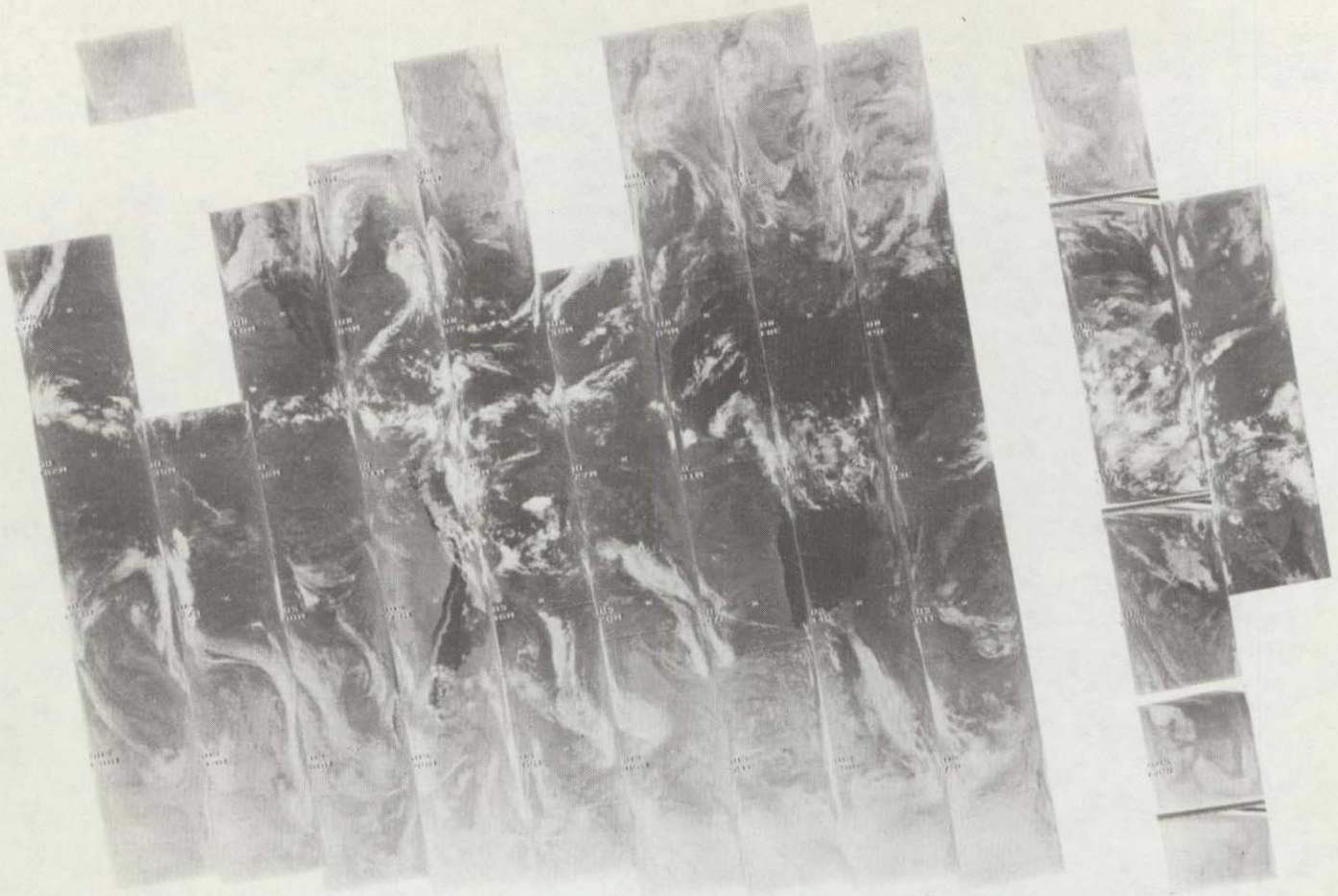


1578 1577 1576 1575 1574 1573 1572 1571 1570 1569 1568 1567 1566

7 OCTOBER 1975

6.7 μm

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1591 1590 1589 1588 1587 1586 1585 1584 1583 1582 1581 1580 1579

8 OCTOBER 1975

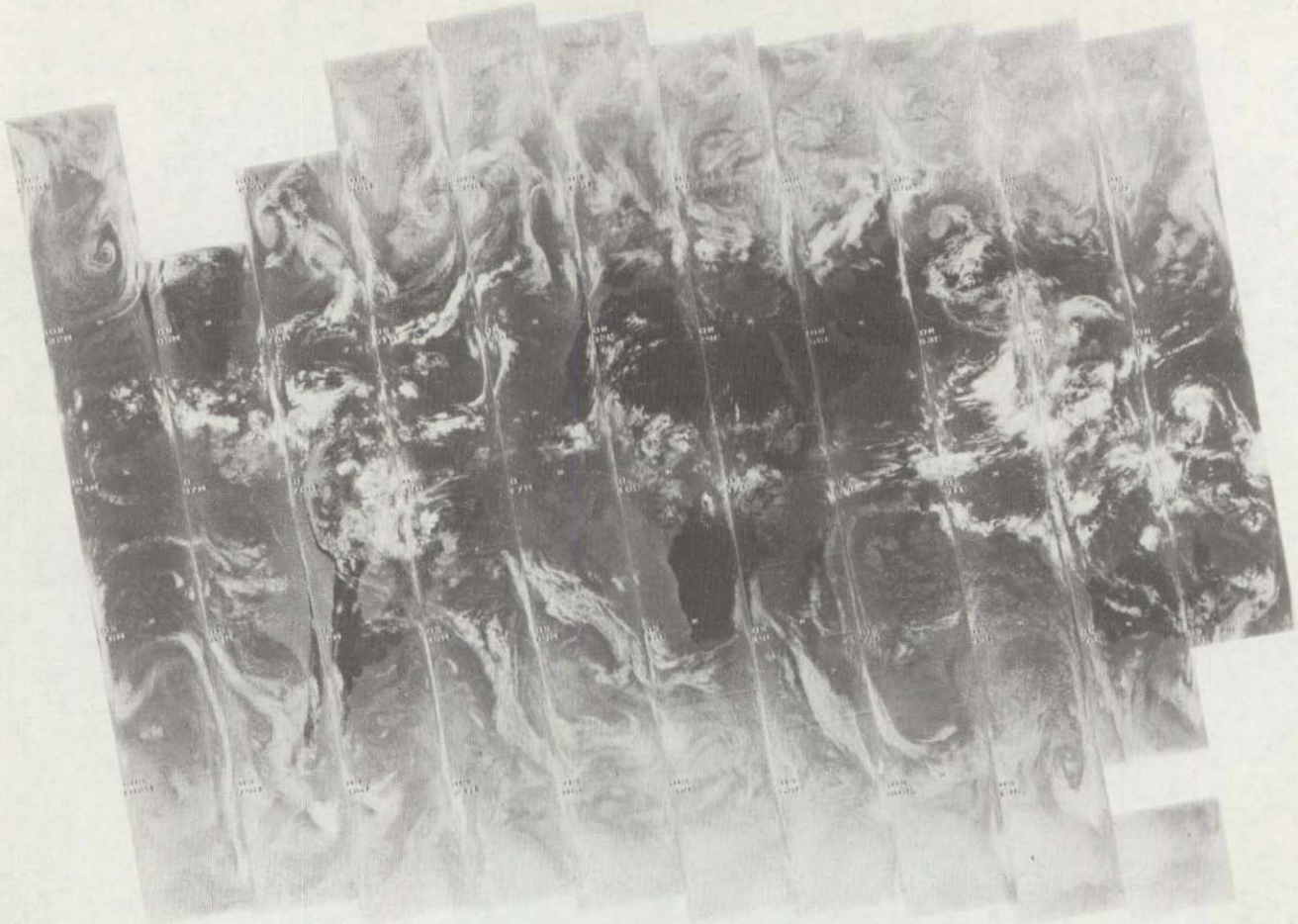
11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY!

1591 1590 1589 1588 1587 1586 1585 1584 1583 1582 1581 1580 1579

8 OCTOBER 1975

6.7 μm



1605 1604 1603 1602 1601 1600 1599 1598 1597 1596 1595 1594 1593 1592

9 OCTOBER 1975

11.5 μm

ORIGINAL PAGE IS
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1618 1617 1616 1615 1614 1613 1612 1611 1610 1609 1608 1607 1606

10 OCTOBER 1975

11.5 μm

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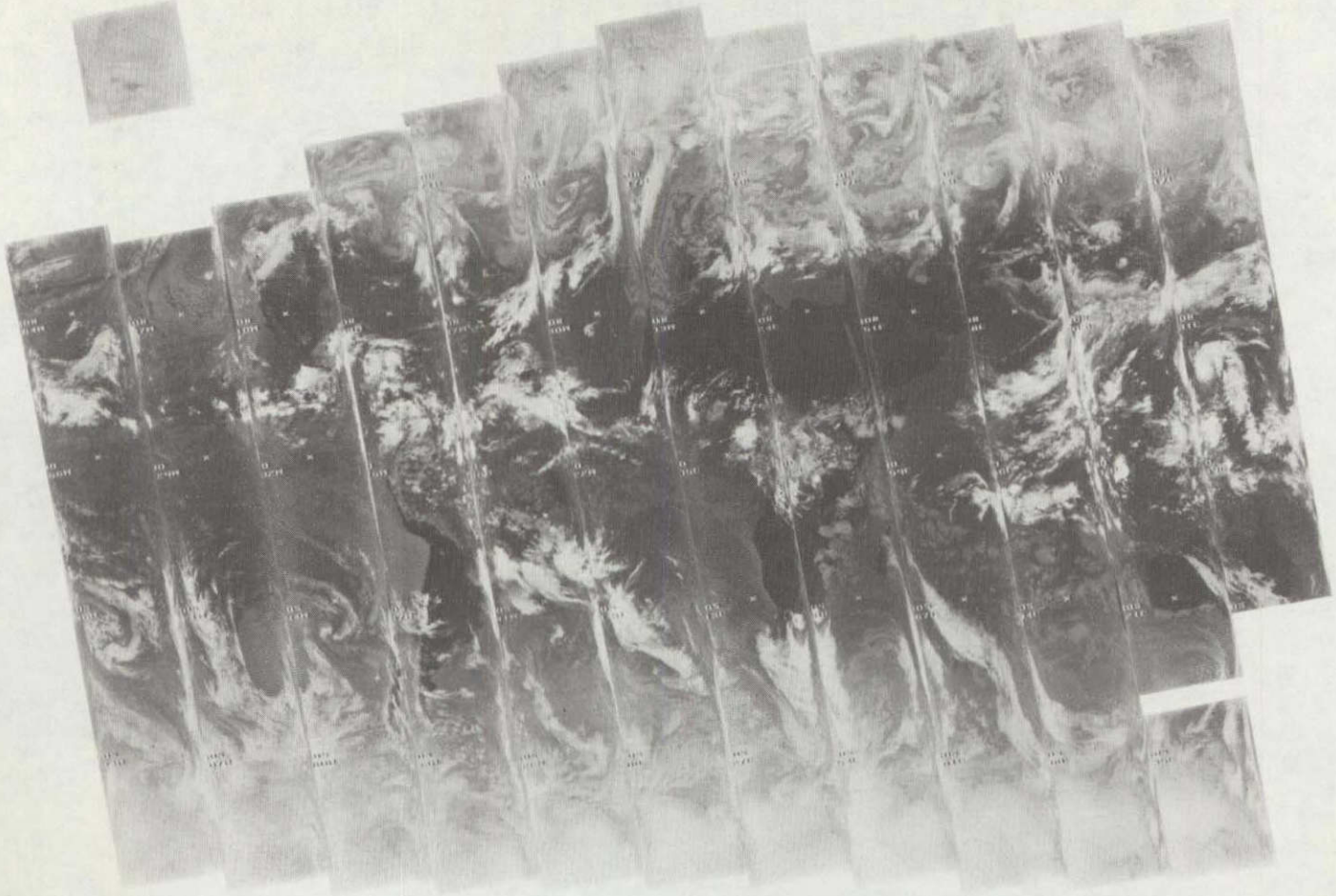
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1618 1617 1616 1615 1614 1613 1612 1611 1610 1609 1608 1607 1606

10 OCTOBER 1975

6.7 μm



1632 1631 1630 1629 1628 1627 1626 1625 1624 1623 1622 1621 1620 1619

11 OCTOBER 1975

11.5 μm

1632 1631 1630 1629 1628 1627 1626 1625 1624 1623 1622 1621 1620 1619

11 OCTOBER 1975

6.7 μm

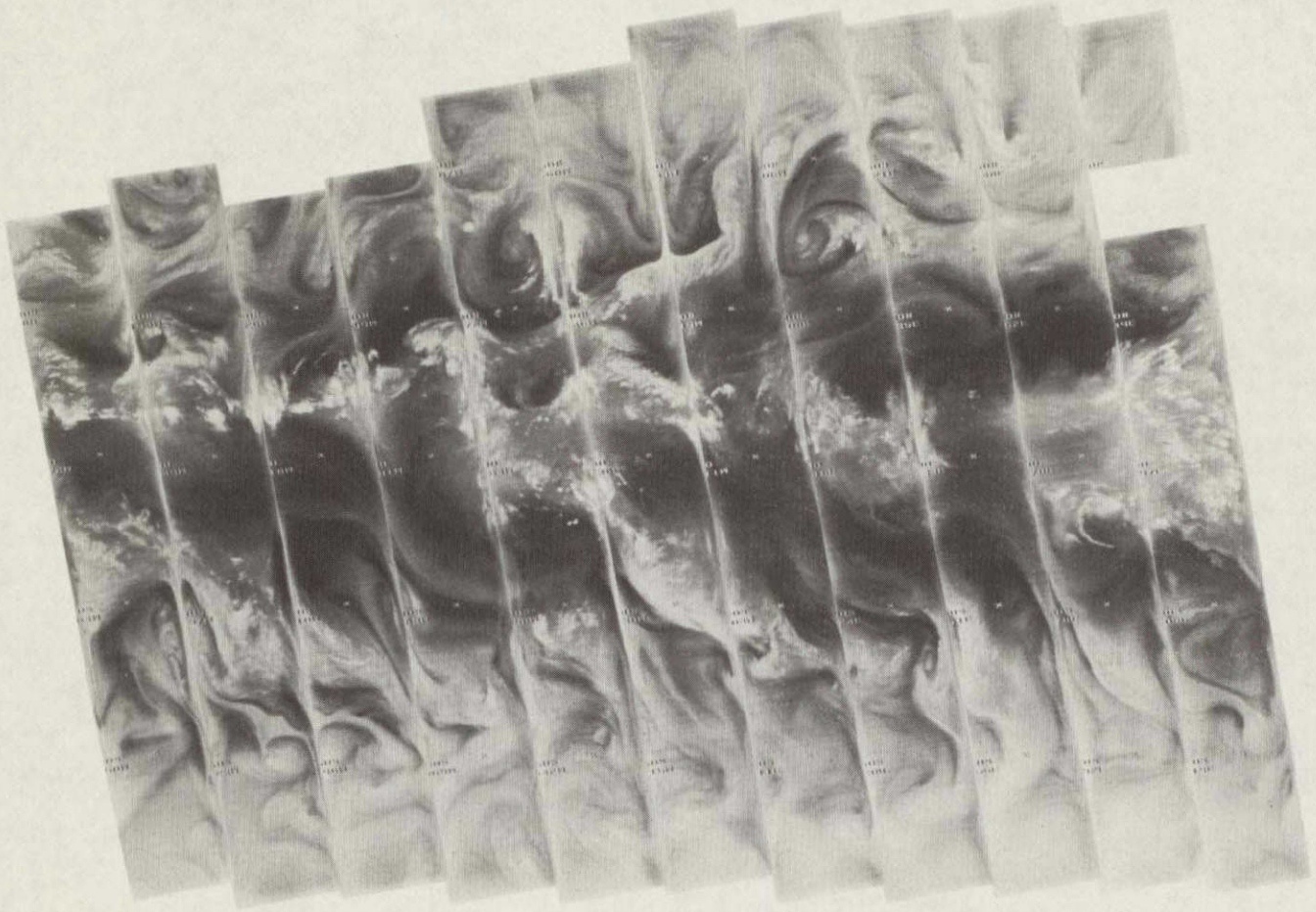
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1645 1644 1643 1642 1641 1640 1639 1638 1637 1636 1635 1634 1633

12 OCTOBER 1975

11.5 μm

C-4

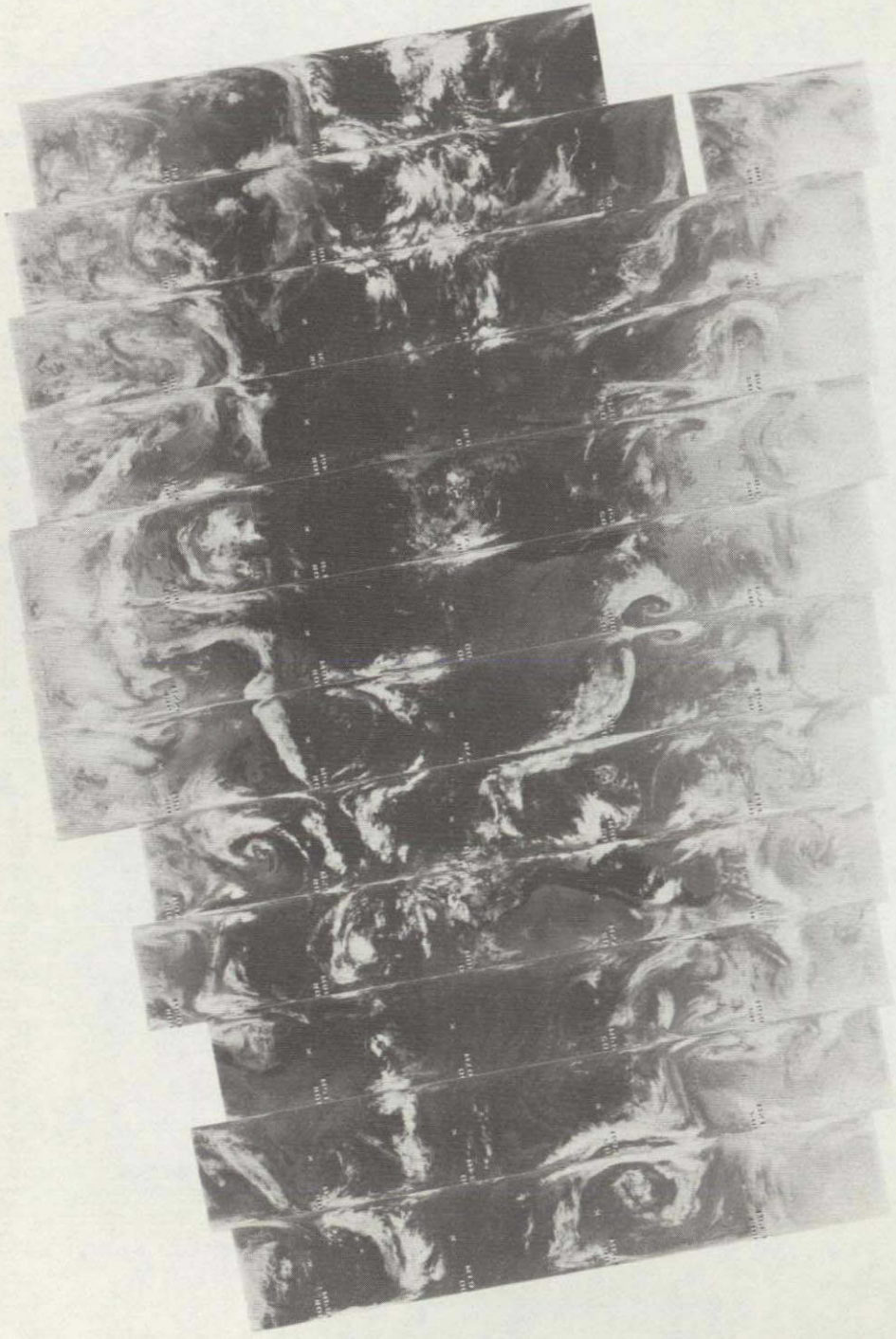


1645 1644 1643 1642 1641 1640 1639 1638 1637 1636 1635 1634 1633

12 OCTOBER 1975

6.7 μm

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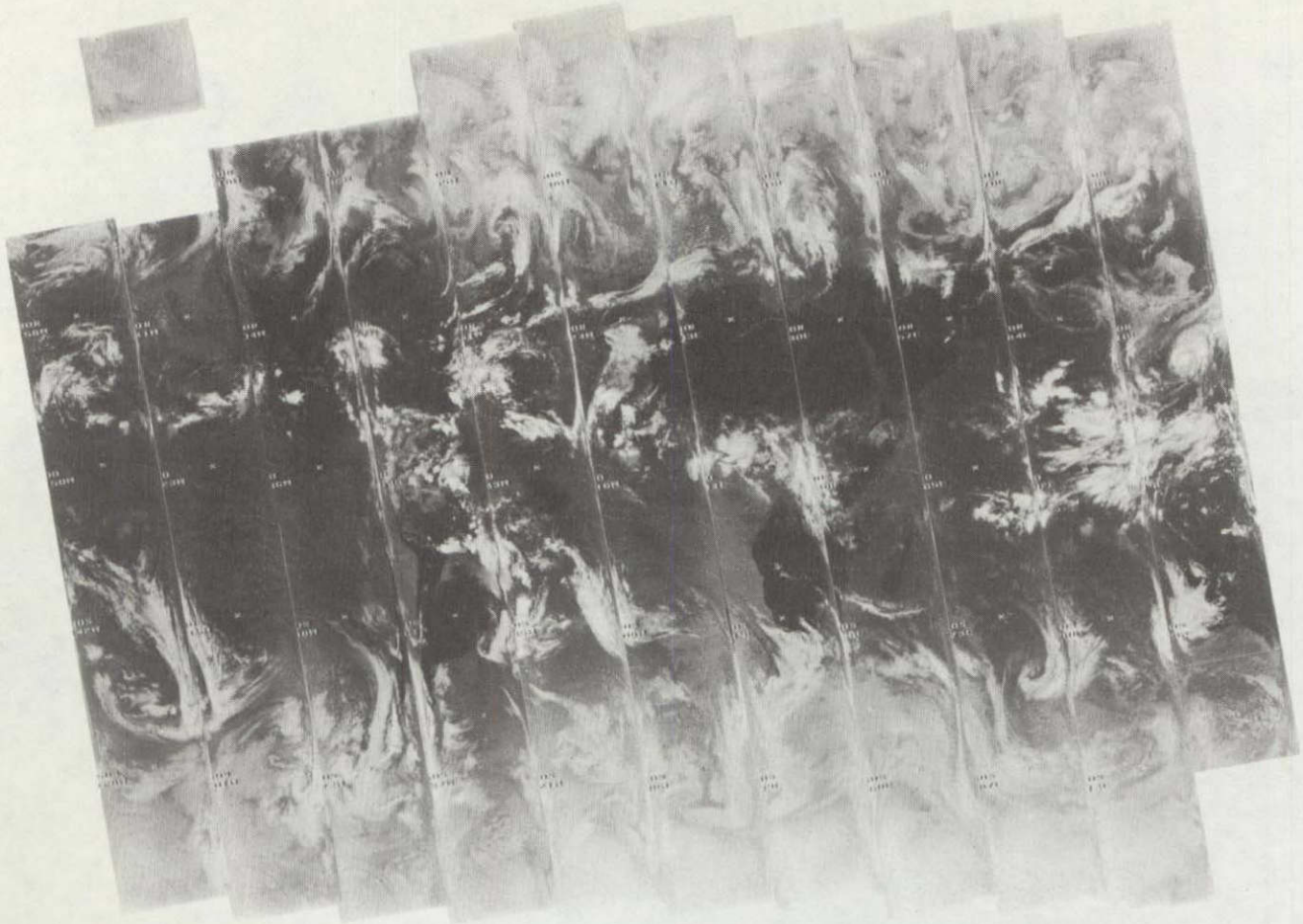


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1658 1657 1656 1655 1654 1653 1652 1651 1650 1649 1648 1647 1646

13 OCTOBER 1975

6.7 μm



1672 1671 1670 1669 1668 1667 1666 1665 1664 1663 1662 1661 1660 1659

14 OCTOBER 1975

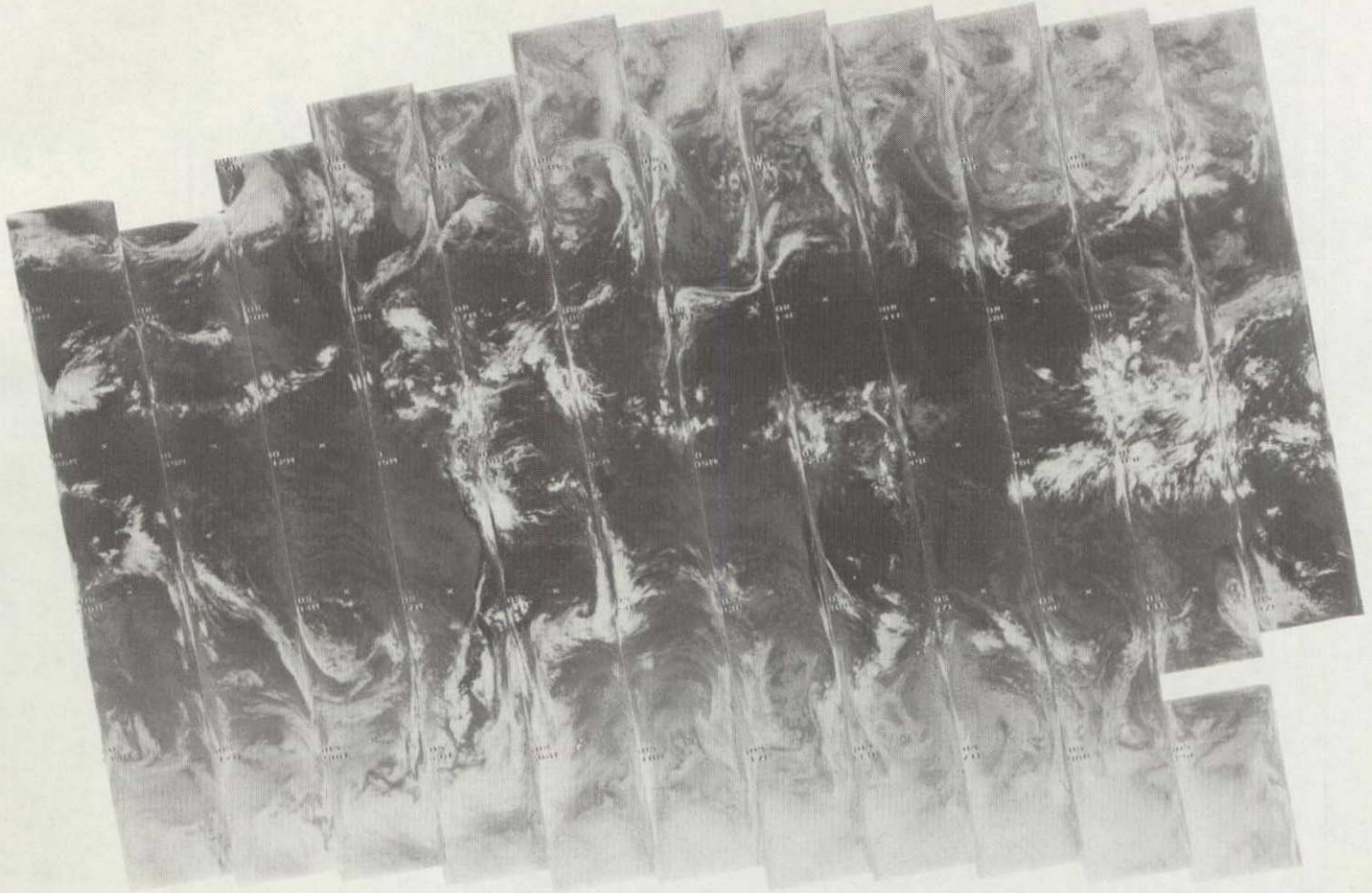
11.5 μm

1672 1671 1670 1669 1668 1667 1666 1665 1664 1663 1662 1661 1660 1659

14 OCTOBER 1975

6.7 μm

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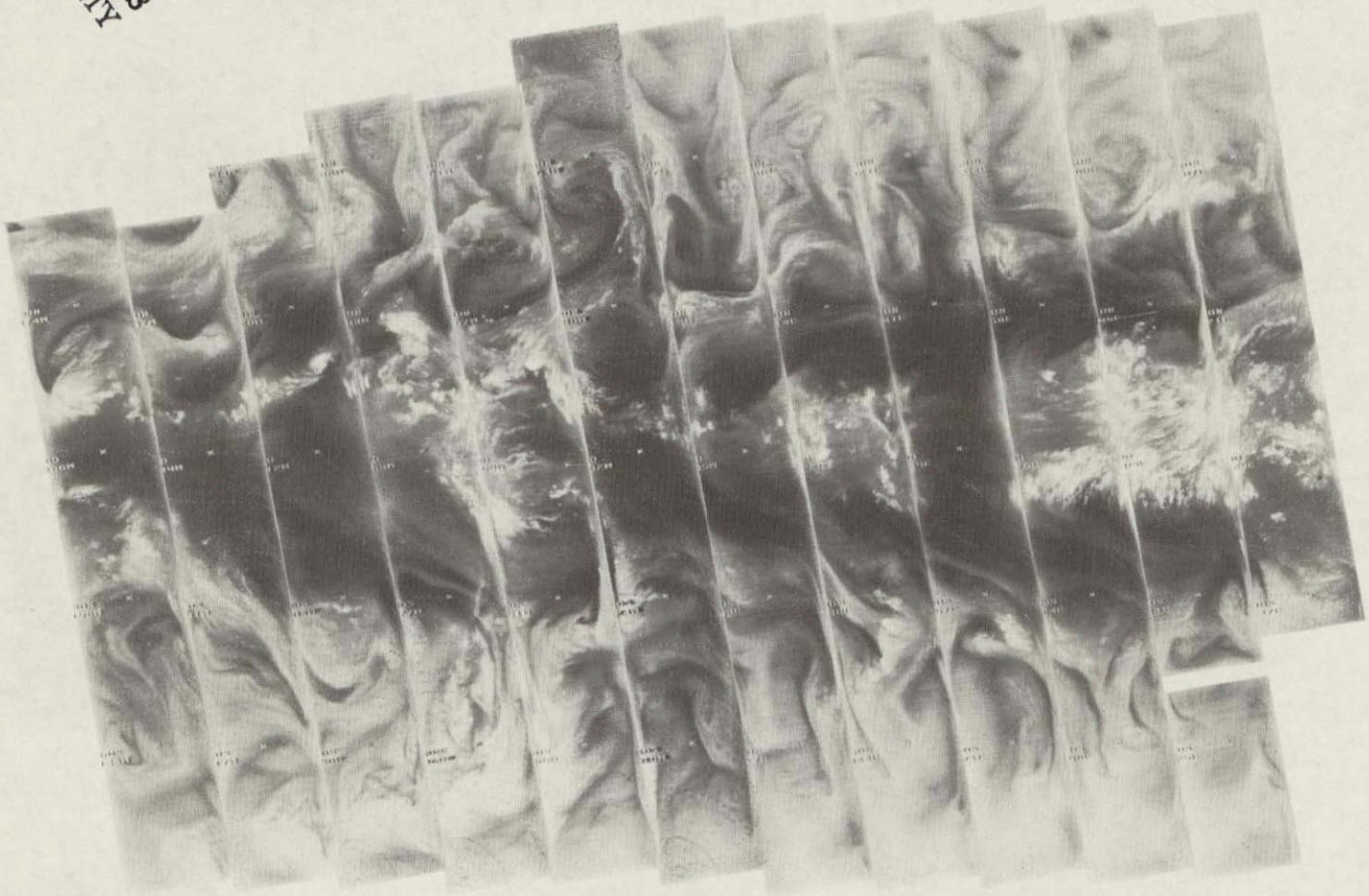


1685 1684 1683 1682 1681 1680 1679 1678 1677 1676 1675 1674 1673

15 OCTOBER 1975

11.5 μm

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1685 1684 1683 1682 1681 1680 1679 1678 1677 1676 1675 1674 1673

15 OCTOBER 1975

6.7 μm



1699 1698 1697 1696 1695 1694 1693 1692 1691 1690 1689 1688 1687 1686

16 OCTOBER 1975

11.5 μm

1699 1698 1697 1696 1695 1694 1693 1692 1691 1690 1689 1688 1687 1686

16 OCTOBER 1975

6.7 μm

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1712 1711 1710 1709 1708 1707 1706 1705 1704 1703 1702 1701 1700

17 OCTOBER 1975

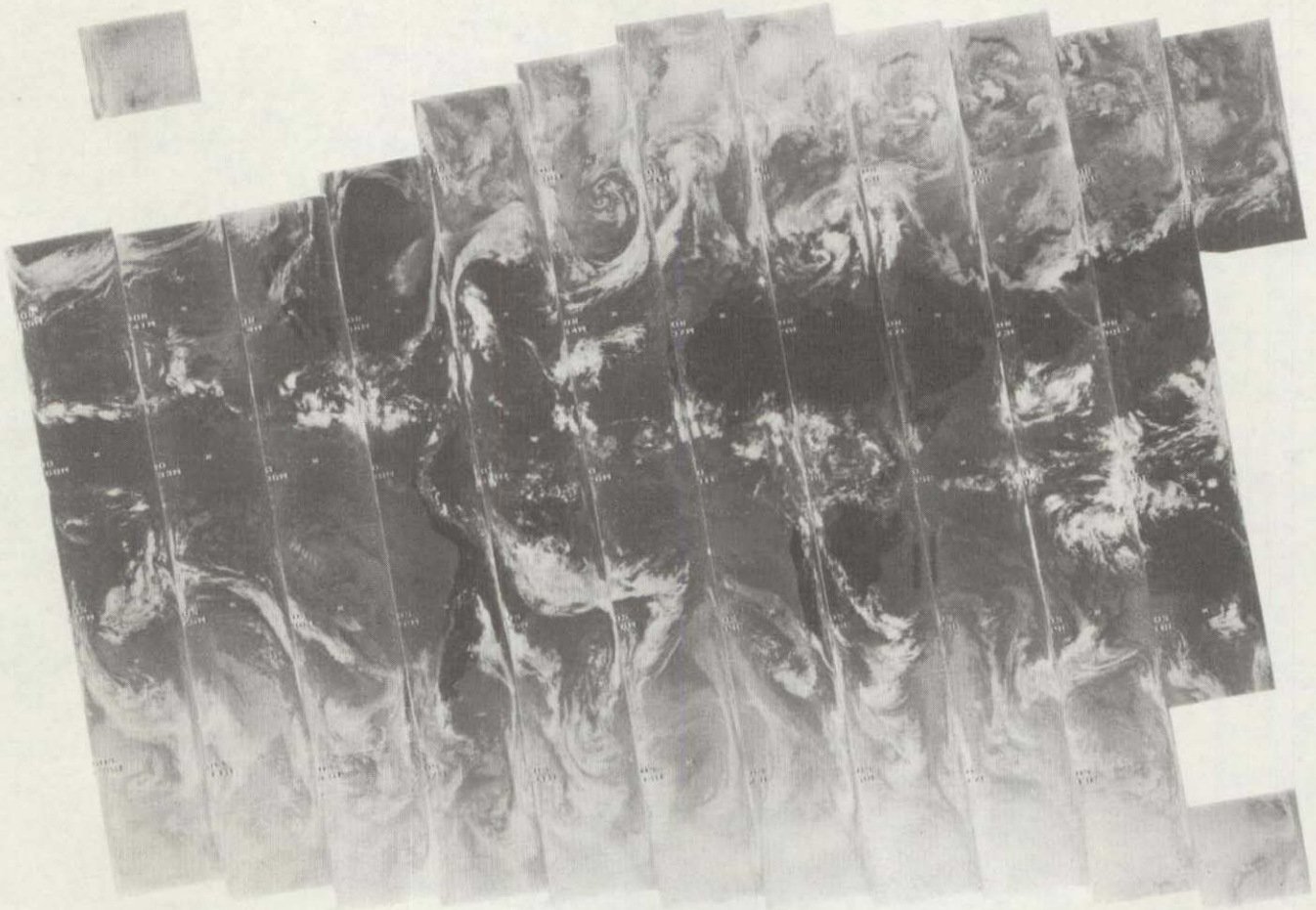
11.5 μm

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1712 1711 1710 1709 1708 1707 1706 1705 1704 1703 1702 1701 1700

17 OCTOBER 1975

6.7 μm



1725 1724 1723 1722 1721 1720 1719 1718 1717 1716 1715 1714 1713

18 OCTOBER 1975

11.5 μm

1725 1724 1723 1722 1721 1720 1719 1718 1717 1716 1715 1714 1713

18 OCTOBER 1975

6.7 μm

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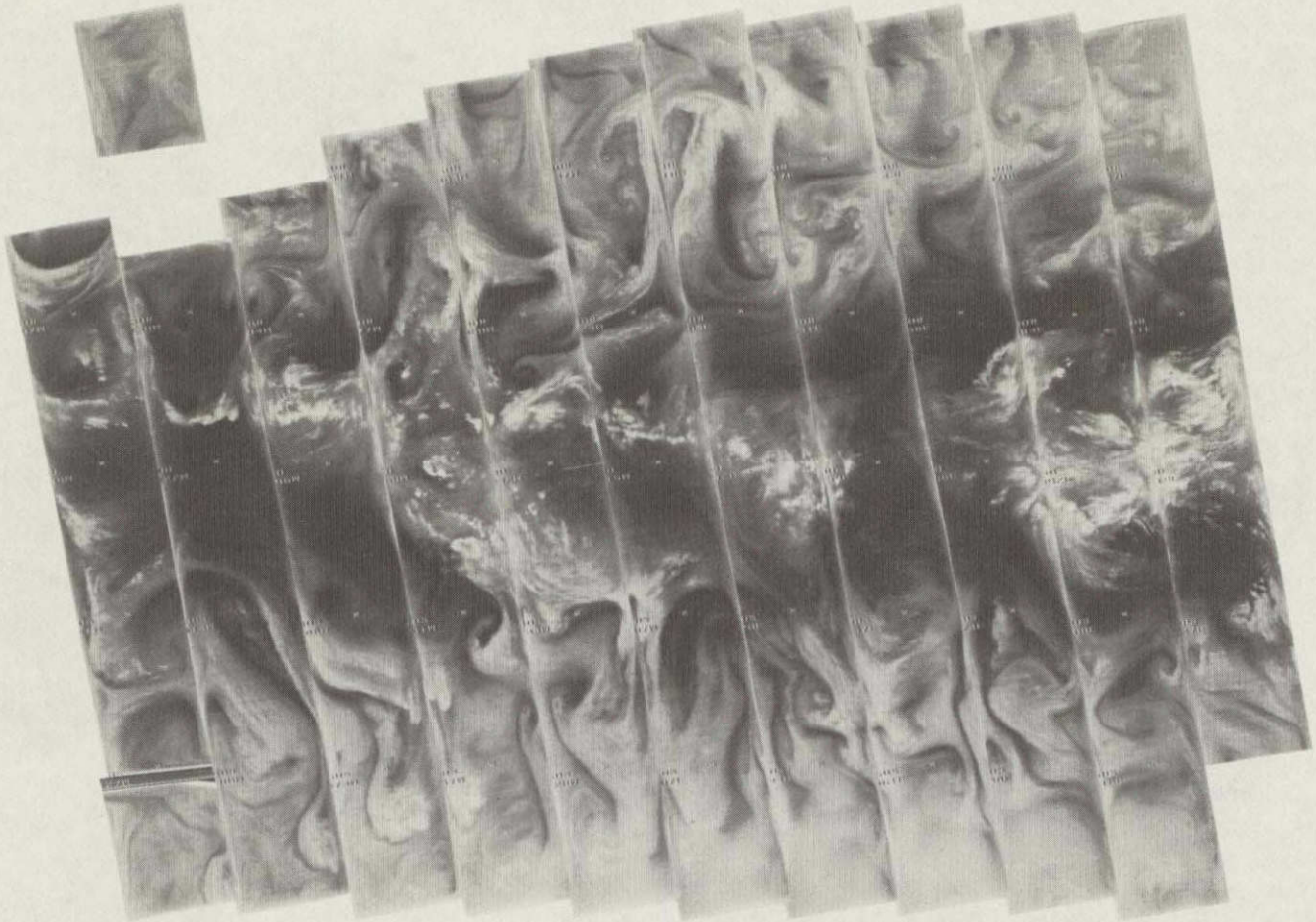
1739 1738 1737 1736 1735 1734 1733 1732 1731 1730 1729 1728 1727 1726

19 OCTOBER 1975

11.5 μm

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ORIGINAL PAGE IS
OF POOR QUALITY



1739 1738 1737 1736 1735 1734 1733 1732 1731 1730 1729 1728 1727 1726

19 OCTOBER 1975

6.7 μm

1752 1751 1750 1749 1748 1747 1746 1745 1744 1743 1742 1741 1740

20 OCTOBER 1975

11.5 μm

1752 1751 1750 1749 1748 1747 1746 1745 1744 1743 1742 1741 1740

20 OCTOBER 1975

6.7 μm

ORIGINAL PAGE IS
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1766 1765 1764 1763 1762 1761 1760 1759 1758 1757 1756 1755 1754 1753

21 OCTOBER 1975

11.5 μm

1766 1765 1764 1763 1762 1761 1760 1759 1758 1757 1756 1755 1754 1753

21 OCTOBER 1975

6.7 μm

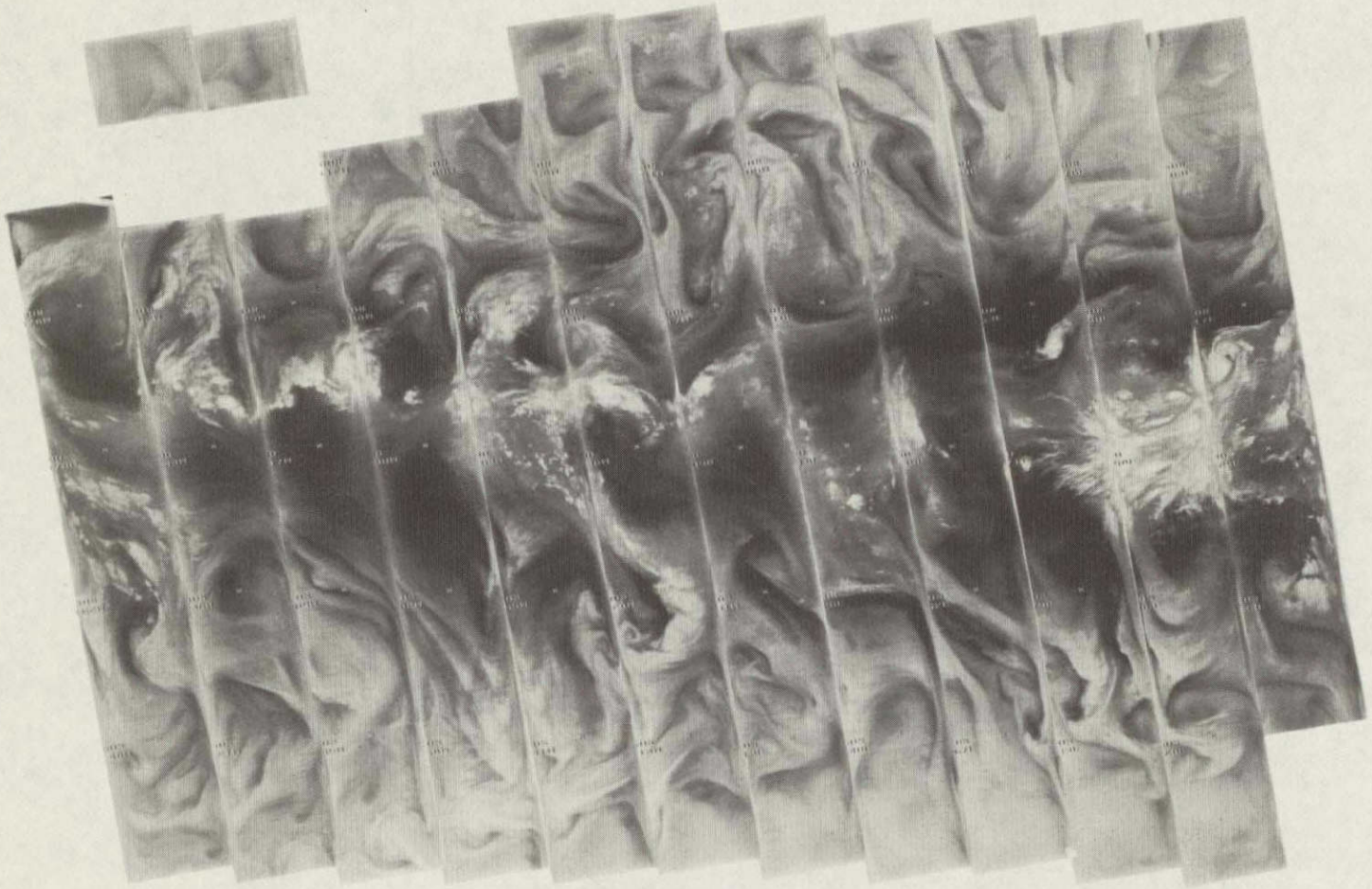
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1779 1778 1777 1776 1775 1774 1773 1772 1771 1770 1769 1768 1767

22 OCTOBER 1975

11.5 μm

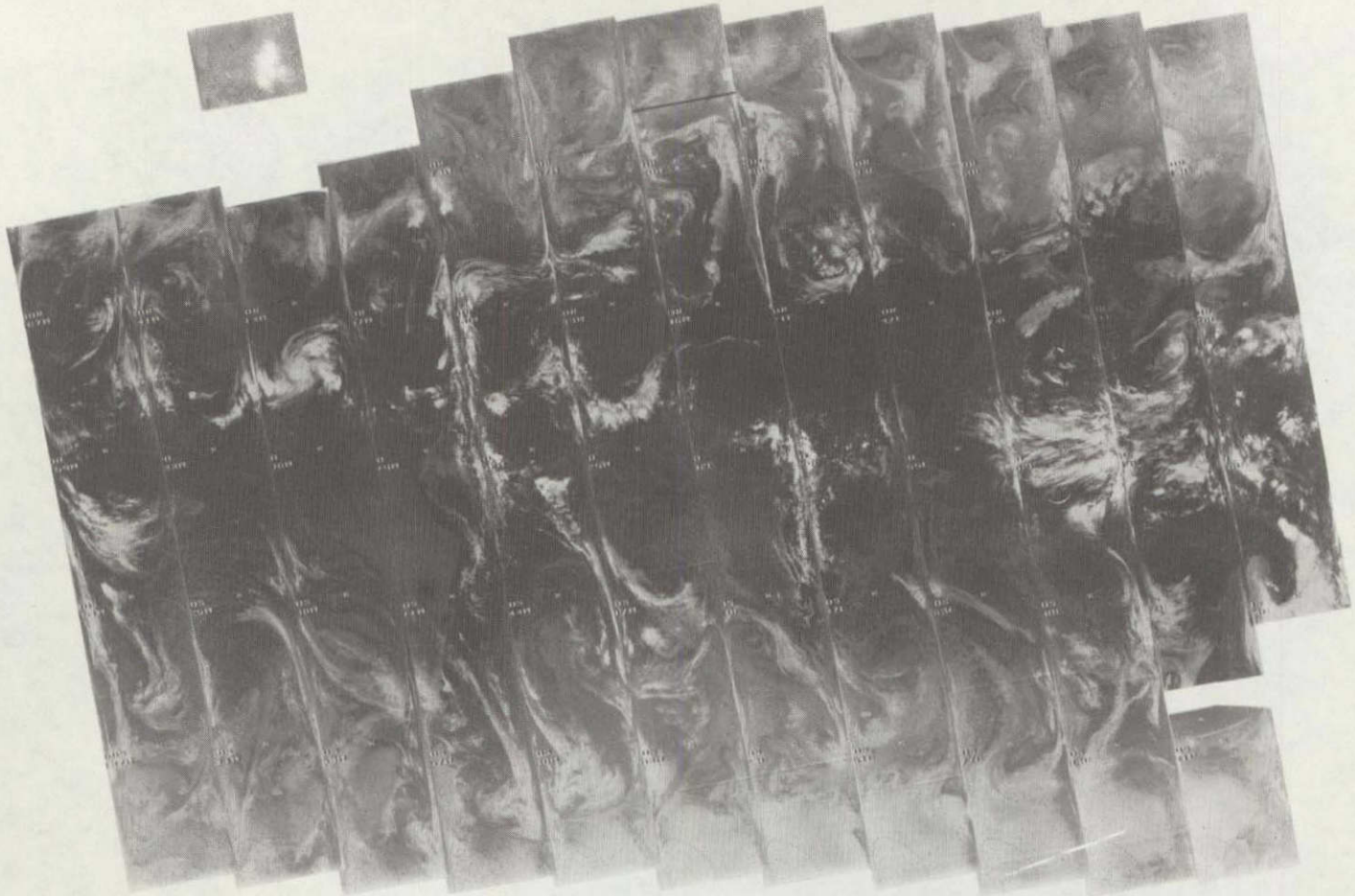
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1779 1778 1777 1776 1775 1774 1773 1772 1771 1770 1769 1768 1767

22 OCTOBER 1975

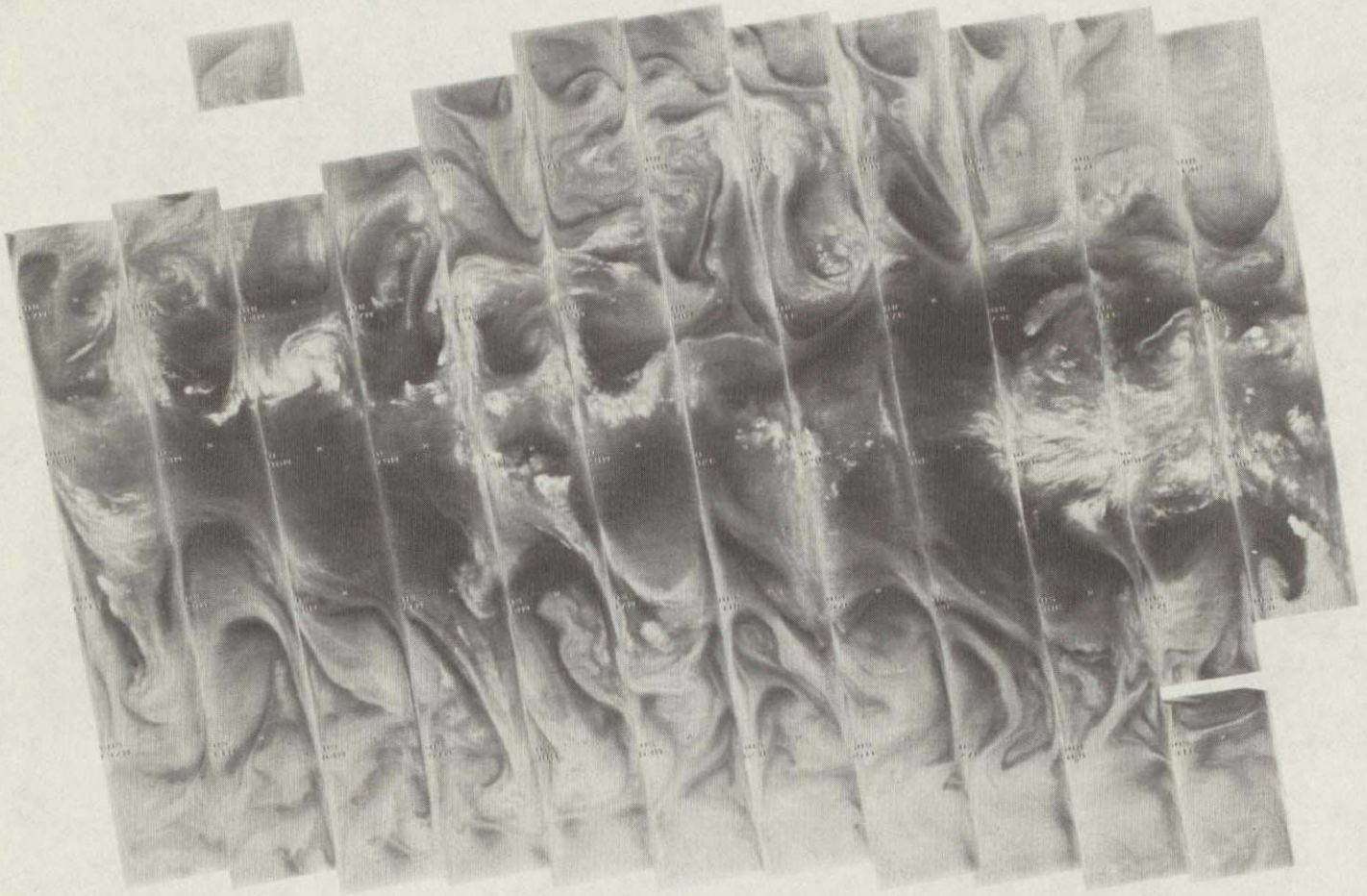
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1792 1791 1790 1789 1788 1787 1786 1785 1784 1783 1782 1781 1780

23 OCTOBER 1975

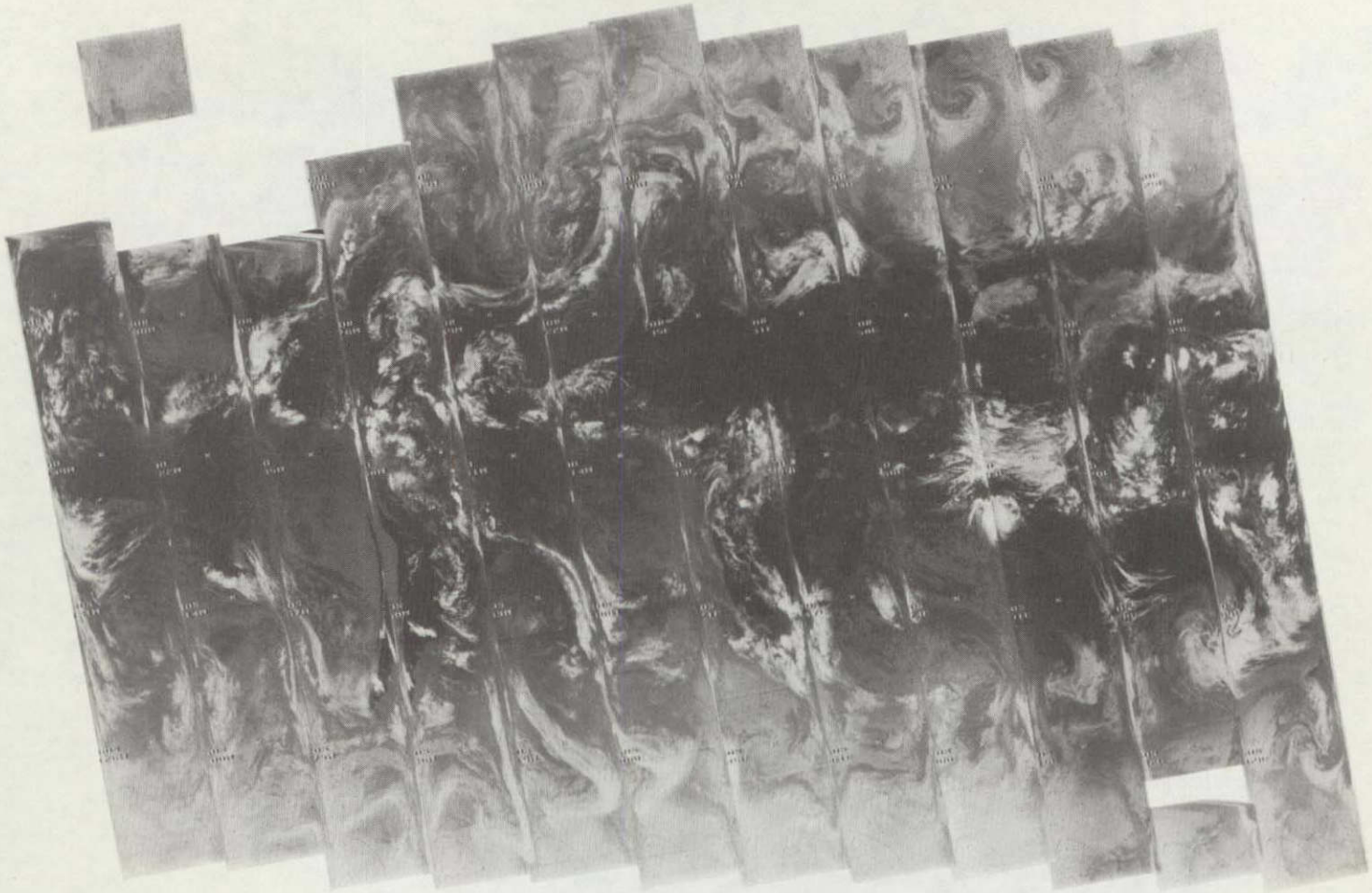
11.5 μm



1792 1791 1790 1789 1788 1787 1786 1785 1784 1783 1782 1781 1780

23 OCTOBER 1975

6.7 μm



1806 1805 1804 1803 1802 1801 1800 1799 1798 1797 1796 1795 1794 1793

24 OCTOBER 1975

11.5 μm

1806 1805 1804 1803 1802 1801 1800 1799 1798 1797 1796 1795 1794 1793

24 OCTOBER 1975

6.7 μm

ORIGINAL PAGE IS
OF POOR QUALITY



1819 1818 1817 1816 1815 1814 1813 1812 1811 1810 1809 1808 1807

25 OCTOBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY

1819 1818 1817 1816 1815 1814 1813 1812 1811 1810 1809 1808 1807

25 OCTOBER 1975

6.7 μm

1833 1832 1831 1830 1829 1828 1827 1826 1825 1824 1823 1822 1821 1820

26 OCTOBER 1975

11.5 μm

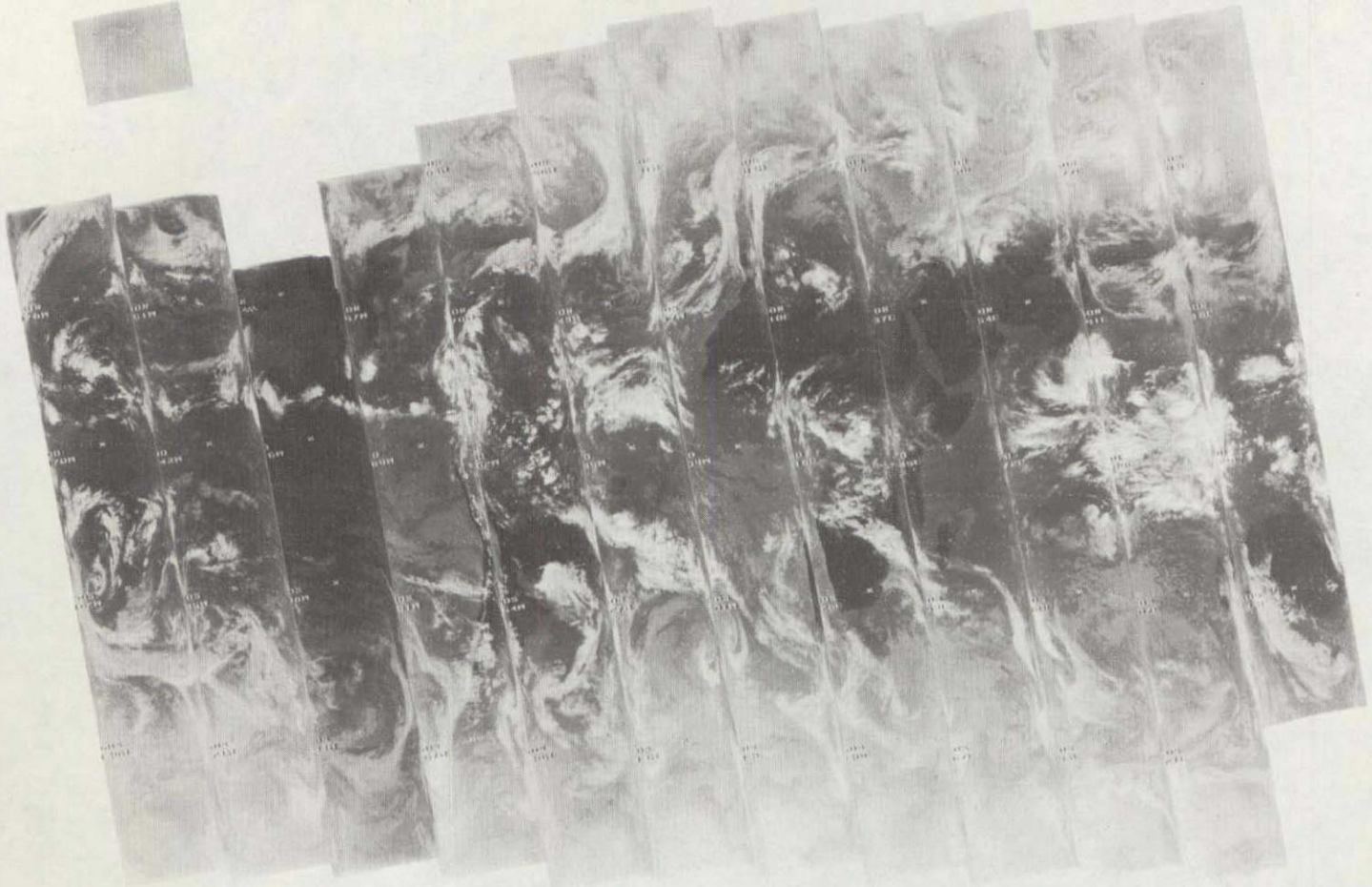
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ORIGINAL PAGE IS
OF POOR QUALITY

1833 1832 1831 1830 1829 1828 1827 1826 1825 1824 1823 1822 1821 1820

26 OCTOBER 1975

6.7 μm



1846 1845 1844 1843 1842 1841 1840 1839 1838 1837 1836 1835 1834

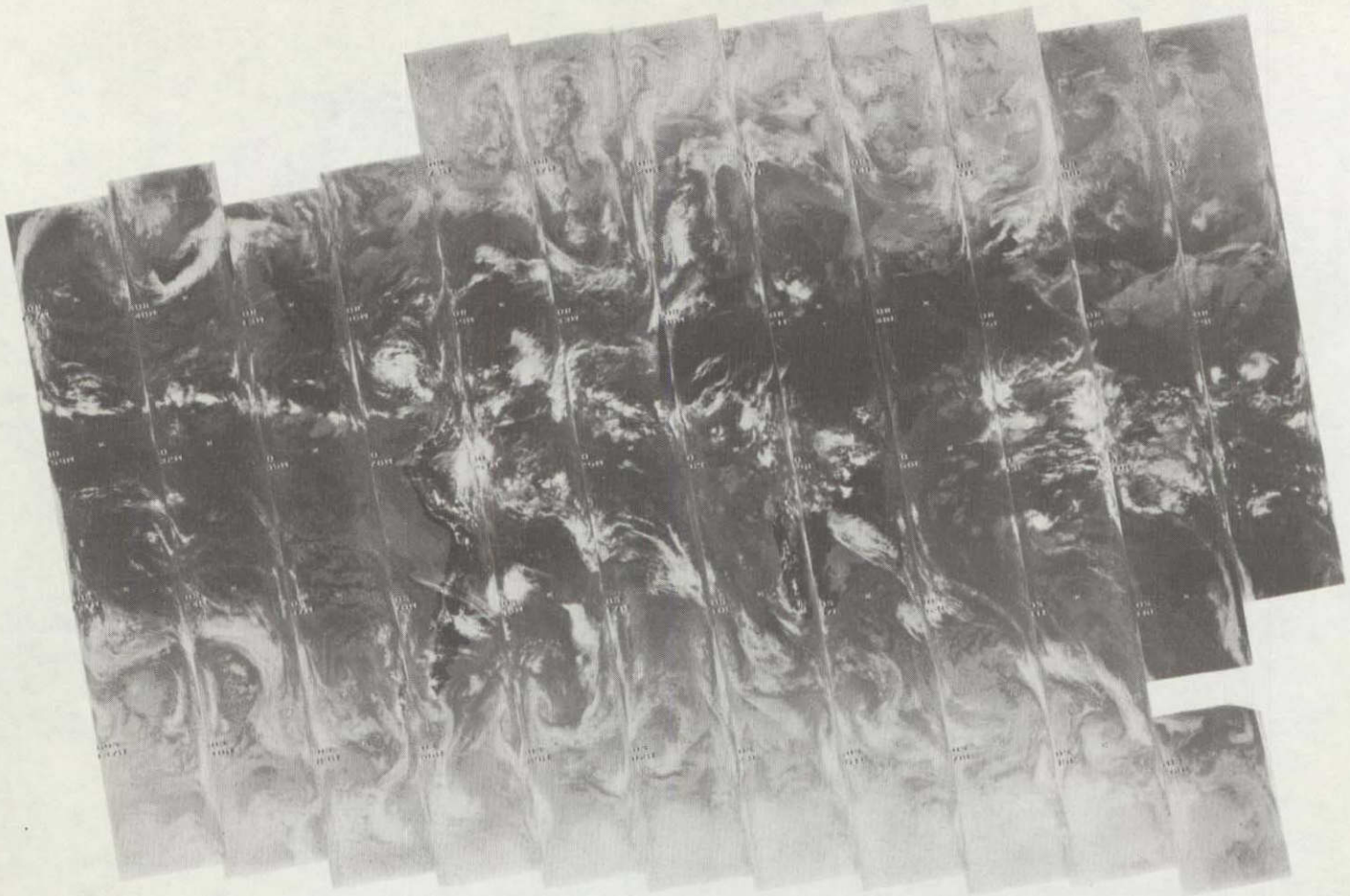
27 OCTOBER 1975

11.5 μm

27 OCTOBER 1975

6.7 μm

ORIGINAL PAGE IS
OF POOR QUALITY

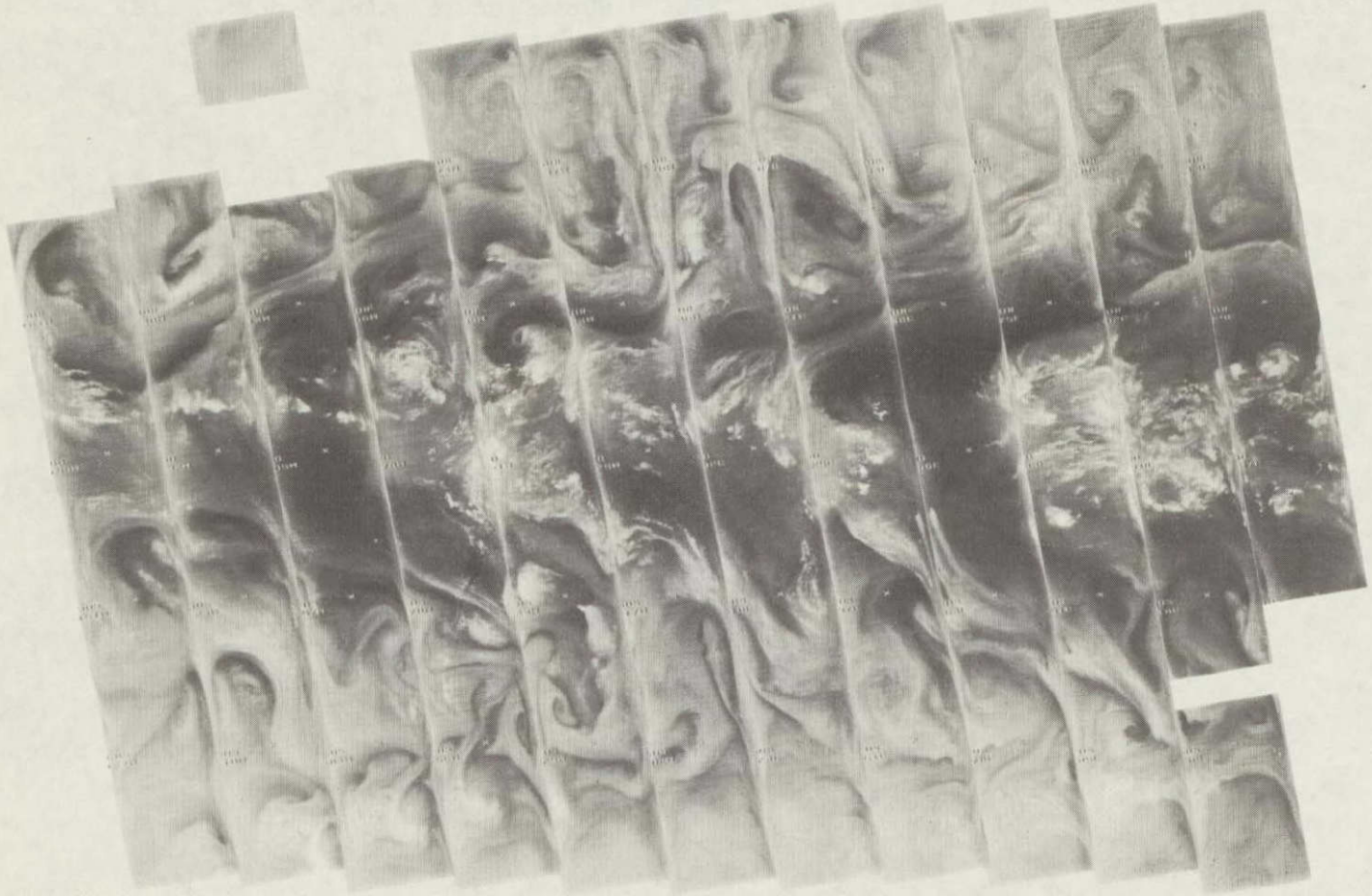


1859 1858 1857 1856 1855 1854 1853 1852 1851 1850 1849 1848 1847

28 OCTOBER 1975

11.5 μm

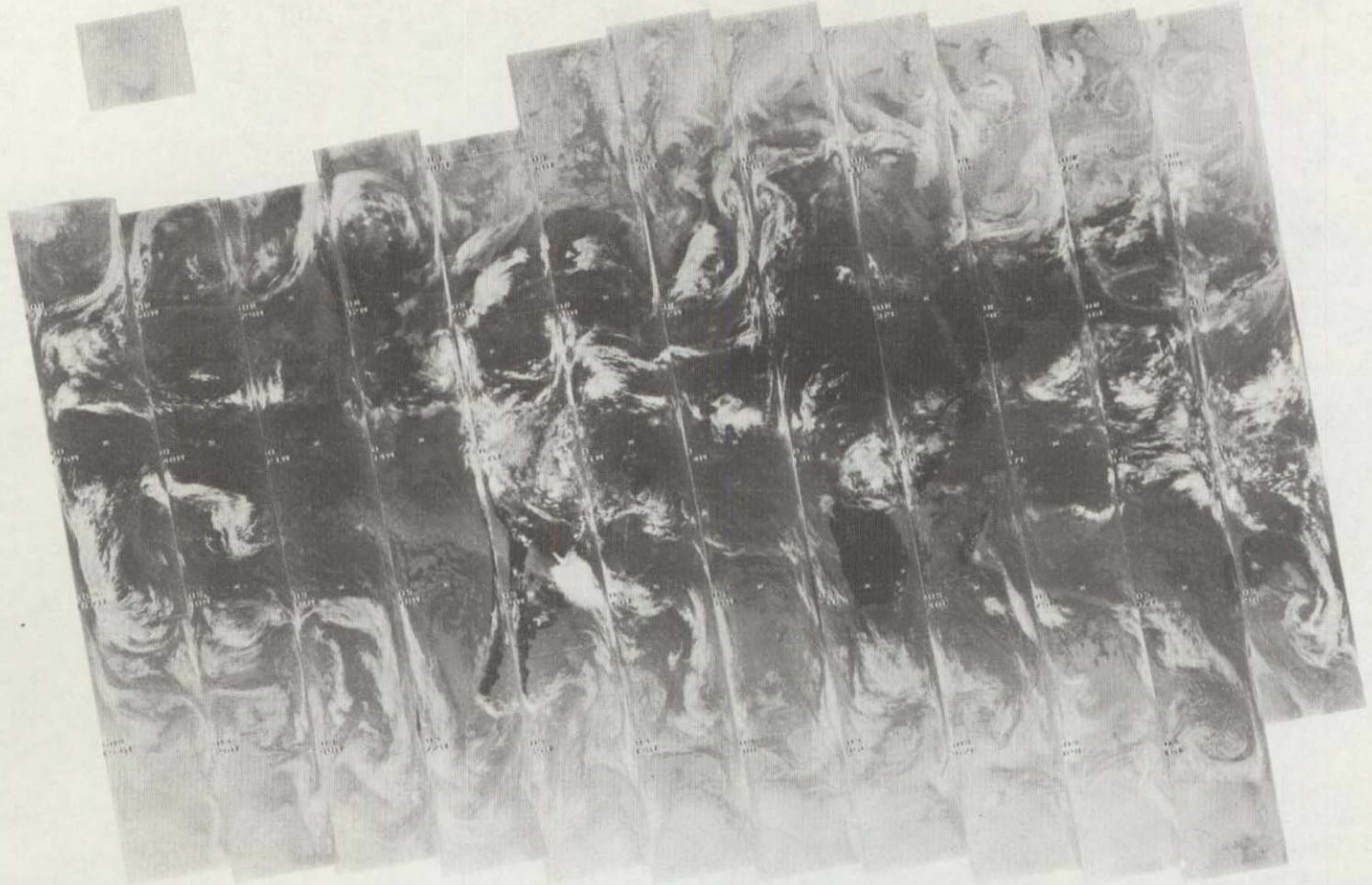
ORIGINAL PAGE IS
OF POOR QUALITY



1859 1858 1857 1856 1855 1854 1853 1852 1851 1850 1849 1848 1847

28 OCTOBER 1975

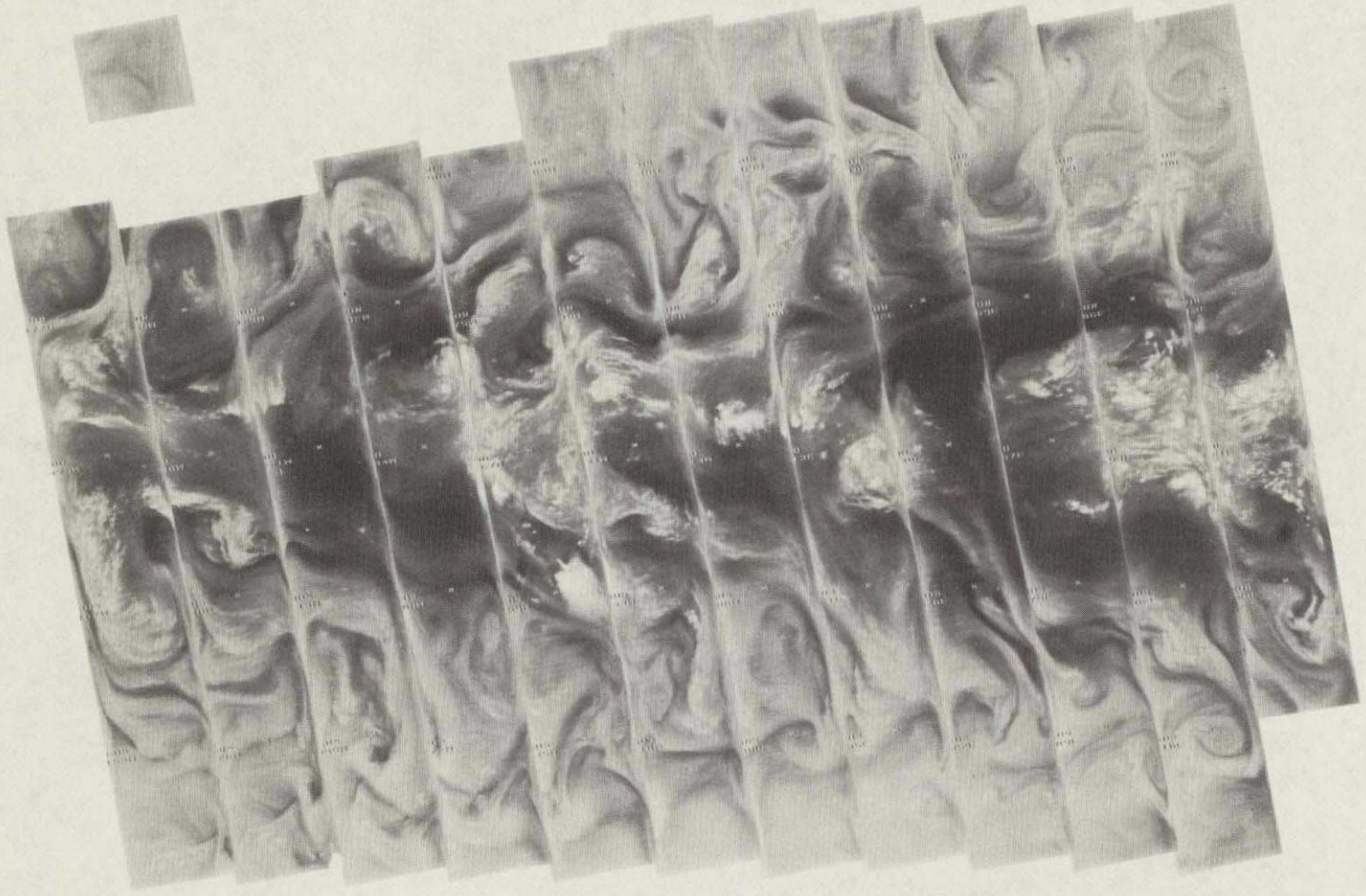
6.7 μm



1873 1872 1871 1870 1869 1868 1867 1866 1865 1864 1863 1862 1861 1860

29 OCTOBER 1975

11.5 μm



1873 1872 1871 1870 1869 1868 1867 1866 1865 1864 1863 1862 1861 1860

29 OCTOBER 1975

6.7 μm

1886 1885 1884 1883 1882 1881 1880 1879 1878 1877 1876 1875 1874

30 OCTOBER 1975

11.5 μm

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY



1886 1885 1884 1883 1882 1881 1880 1879 1878 1877 1876 1875 1874

30 OCTOBER 1975

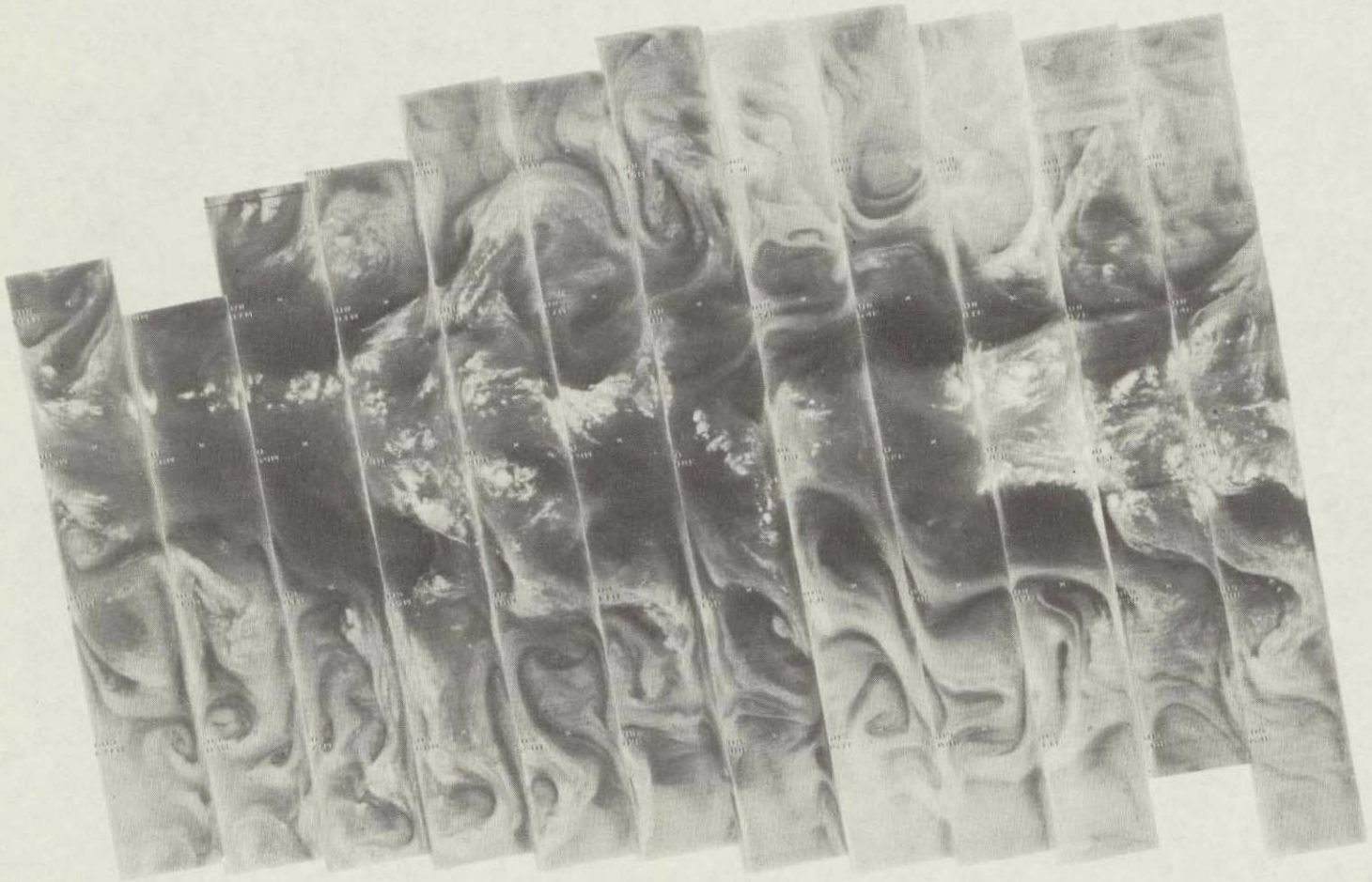
6.7 μm



1900 1899 1898 1897 1896 1895 1894 1893 1892 1891 1890 1889 1888 1887

31 OCTOBER 1975

11.5 μm



1900 1899 1898 1897 1896 1895 1894 1893 1892 1891 1890 1889 1888 1887

31 OCTOBER 1975

6.7 μm

SECTION 5

CORRECTIONS TO THE NIMBUS 6 USER'S GUIDE

This section presents all corrections or additions to The Nimbus 6 User's Guide, which now are known to be necessary. If additional corrections are required, they will appear in a subsequent catalog. All corrections will be carried forward cumulatively into each new catalog.

5.1 THIR Corrections to the User's Guide

The THIR mirror on Nimbus 6 rotates counter clockwise. Therefore, replace lines one through four on page 14 with the following:

> ". . .rotation is such that, when combined with the velocity vector of the satellite, a left-hand spiral results. Therefore, the mirror scans across the earth from west to east in the daytime when traveling northward, and from east to west at night when traveling southward."

The information in Figure 2-4 on page 17 is correct. However, the direction of scan is counter clockwise, and not clockwise as shown.

5.2 HIRS Corrections to the User's Guide

On page 40, Table 3-2, under "Detector Summary" change LnSe to LnSb.

The CHANNEL (and) RANGE information in the swath displays for HIRS has been changed since launch, making Table 3-5 on pages 54 and 55 in the User's Guide incorrect. The table below labeled Table 3-5 provides the correct information.

5.3 SCAMS Corrections to the User's Guide

The information contents of the image in the swath displays for SCAMS has been changed since launch, making Tables 4-5, 4-6, and 4-7 in the User's Guide incorrect. Thus, the table below labeled 4-5 and 6 replaces Tables 4-5 and 4-6 in the User's Guide, and the table labeled 4-7 replaces Table 4-7 in the User's Guide. All the images display the same parameters. Therefore, these new tables do not list all the possible displays, as were listed in the old Tables 4-5, 4-6, and 4-7.

Section 4.5.3 "Tape Format" on page 83 of the User's Guide states that each tape will have "five files, i.e., a short header file . . . and four data files,. . ." There will not be a header file on the archival tape. The sentence should be changed to read: "The tapes will be standard 9-track 1600 BPI tapes, each containing four data files, one for each of four days."

Table 5-1
This table replaces Table 3-5 on pages 54 and 55 in The Nimbus 6 User's Guide

Table 3-5

Temperature Range of Gray Scale, and Channel of HIRS Data for each Swath on each HIRS Image Display between Orbit 426 and 1900 (14 July through 31 October 1975)

		Swath Number									
		1	2	3	4	5	6	7	8	9	10
Coverage Period 14 July-20 July Orbits 426-513	HIRS Channel Display (channel-range)*	08-08	09-09	10-10	16-16	17-17	18-18	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black to white)	300-200	290-210	260-210	310-270	100-900	0-30	290-210	260-210	240-210	280-210
Coverage Period 22 July-31 July Orbits 538-545 548-549 600-613 615-647 651-657 659	HIRS Channel Display (channel-range)*	08-08	09-09	10-10	16-16	17-17	17-17	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	300-200	290-210	260-230	310-270	100-900	100-900	280-200	280-200	280-200	280-200
Coverage Period 23 July-6 Aug. Orbits 546-547 553-599 614 648-650 658 660-747	HIRS Channel Display (channel-range)*	08-08	16-16	16-21	18-18	17-17	10-10	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	300-200	310-270	300-200	0-30	100-900	260-230	280-200	280-200	280-200	280-200

Table 3-5 (continued)

		Swath Number									
		1	2	3	4	5	6	7	8	9	10
Coverage Period 7 Aug.-31 Oct. Orbits 748-1900	HIRS Channel Display (channel-range)*	08-08	16-16	16-21	18-18	17-17	10-10	12-12	14-14	03-03	15-15
	Temperature Range (°K) (black-white)	310-230	310-230	310-270	0-50	100-900	280-210	300-210	300-210	240-185	300-185

*The HIRS channel number is number before the hyphen. The number after the hyphen is the computer program table used to display the data from each channel as temperatures (°K). The range of temperatures displayed in each swath is given beneath each "HIRS Channel Display." The 18 steps of the gray scale are used to represent the division of each temperature range into 18 approximately equal temperature intervals. The central wavelength (in μm) of each channel on these displays is: channel 3 = 14.4, 8 = 11.0, 9 = 8.2, 10 = 6.7, 12 = 4.52, 14 = 4.40, 15 = 4.24, 16 = 3.71, 17 = 0.61, and 18 is the temperature difference between channel 16 and channel 8. The values of channel 17-17 are albedo, represented as "counts" between 100 (blackest) and 900 (whitest). The values for 16-21 represent a second temperature range for channel 16 data. Table 3-1 on page 39 of the User's Guide provides detailed spectral information and the purpose of each of the HIRS channels.

Table 5-2

This table replaces Tables 4-5 and 4-6 (on pages 79 through 81) in The Nimbus 6 User's Guide

Table 4-5 and 6

Parameter Value for each Step of the Gray Scale on the SCAMS Image Displays for Parameters 2, 3, 11, 12 and 16 (valid between orbit 426, 14 July and orbit 1900, 31 October 1975)

		Parameters						
Gray Scale Number		2 (31.65 GHz T_A) (°K)	3 (52.85 GHz T_A) (°K)	11 (Integrated water vapor) (g/mm^2)	12* (Integrated liquid water) (g/mm^2)	12** (Integrated liquid water) (g/mm^2)	12*** (Integrated liquid water) (g/mm^2)	16 (param. 2) minus (param. 3) (°K)
(black)	1	>320	>280	>60	>1.6	>1.5	>2.0	>10
	2	306 - 320	276 - 280	56 - 60	1.5 - 1.6	1.4 - 1.5	1.9 - 2.0	08 - 10
	3	293 - 306	271 - 276	53 - 56	1.4 - 1.5	1.3 - 1.4	1.8 - 1.9	06 - 08
	4	279 - 293	267 - 271	49 - 53	1.3 - 1.4	1.2 - 1.3	1.6 - 1.8	04 - 06
	5	265 - 279	263 - 267	45 - 49	1.2 - 1.3	1.1 - 1.2	1.5 - 1.6	02 - 04
	6	251 - 265	258 - 263	41 - 45	1.1 - 1.2	1.0 - 1.1	1.4 - 1.5	00 - 02
	7	238 - 251	254 - 258	38 - 41	1.0 - 1.1	0.9 - 1.0	1.3 - 1.4	-02 - 00
	8	224 - 238	249 - 254	34 - 38	0.9 - 1.0	0.8 - 0.9	1.1 - 1.3	-04(-) - 02
	9	210 - 224	245 - 249	30 - 34	0.8 - 0.9	0.7 - 0.8	1.0 - 1.1	-06(-) - 04
	10	196 - 210	241 - 245	26 - 30	0.7 - 0.8	0.6 - 0.7	0.9 - 1.0	-08(-) - 06
	11	183 - 196	236 - 241	23 - 26	0.6 - 0.7	0.5 - 0.6	0.8 - 0.9	-10(-) - 08
	12	169 - 183	232 - 236	19 - 23	0.5 - 0.6	0.4 - 0.5	0.6 - 0.8	-12(-) - 10
	13	155 - 169	228 - 232	15 - 19	0.4 - 0.5	0.3 - 0.4	0.5 - 0.6	-14(-) - 12
	14	141 - 155	223 - 228	11 - 15	0.3 - 0.4	0.2 - 0.3	0.4 - 0.5	-16(-) - 14
	15	128 - 141	219 - 223	08 - 11	0.2 - 0.3	0.1 - 0.2	0.3 - 0.4	-18(-) - 16
	16	114 - 128	214 - 219	04 - 08	0.1 - 0.2	0.0 - 0.1	0.1 - 0.3	-20(-) - 18
	17	100 - 114	210 - 214	00 - 04	0.0 - 0.1	-0.1 - 0.0	0.0 - 0.1	-22(-) - 20
(white)	18	<100	<210	<00	<0.0	<-0.1	<0.0	<-22

*valid between orbits 426 and 477

**valid between orbits 478 and 1425

***valid between orbits 1426 and 1900

Table 5-3
This table replaces Table 4-7 (on pages 82 and 83)
in The Nimbus 6 User's Guide

Table 4-7

Contour Program Options used for Parameters 13, 14, and 15 on the SCAMS Image Displays

Contour options	Parameters			Valid for orbits
	13 Mean temperature between 1000 mb and 500 mb	14 Mean temperature between 500 mb and 250 mb	15 Mean temperature between 250 mb and 100 mb	
Contour interval	4°K	4°K	4°K	426-851
Contour thickness	1°K	1°K	1°K	(14 July-14 August)
Contour interval	4°K	4°K	4°K	852-1900
Contour thickness	2°K	2°K	2°K	(14 August-31 October)

In Table 4-8 on page 80 the "Pitch error" and "Roll error" "Dimensional Units should be changed to counts (from Deg) and the "Multiplier Used" should be changed to 1 (from 32). In the same table the "Playback orbit" should be followed by one "I*2 Spare", and then by the "Reference orbit", which should be changed to I*4 (rather than I*2). (Reference orbit = year * 100,000 + day * 100 + finish hour.) The "Dimensional Units" for the "Geopotential thicknesses" on page 85 of the same table should be chang to "°K" (from DM).

The following information, describing how the antenna temperatures are compu from the SCAMS instrument digital data, should be added after SCAMS Section 4.5 of the User's Guide.

4.6 Post-launch Calibration

Antenna temperatures are computed from the SCAMS instrument digital data for each of the five channels by the equation

$$T_A = T_{AS} + \frac{T_{AC}-T_{AS}}{d_c - d_s}(d - d_s)$$

where T_A is antenna temperature for the earth (positions 0-12), T_{AS} is the space antenna temperature (position 13), T_{AC} is the calibration target antenna temperature (position 14), d is earth data in counts, d_s is space data in counts, and d_c is calibration target data in counts. The digital data matrix is described in Table 4-2 of the Nimbus 6 User's Guide. The space calibration antenna temperature is assumed constant at 3°K for all five channels. The target antenna temperature is computed by

$$T_{AC} = T_C + T_{CO}$$

The constant offset T_{CO} is currently assumed to be zero for all channels, and the target temperatures (T_C) are given by

$$T_C = a_0 + a_1 (R - R_{25}) + a_2 (R - R_{25})^2$$

where the thermistor resistances (R) are computed by

$$R = R_1 + \frac{R_2 - R_1}{d_{R2} - d_{R1}} (d_R - d_{R1})$$

and values of the other constants are listed in Table 4-9. Note that channels 3, 4, and 5 share the same calibration target. Also listed in Table 4-9 are word numbers in the digital data matrix containing data values d_R, d_{R1}, and d_{R2}.

4.4 ESMR Corrections to the User's Guide

The following are corrected equations for the ESMR Section of the User's Guide:

page 90

$$X\ (km) = (636 + 10.8P - 0.32P^2)\ R_j$$

page 96

$$T_B = T_A - (T_A - T_C)\ \frac{(C - C_A)}{(C_C - C_A)}$$

page 101

$$T_{\substack{\text{Horizontal} \\ \text{True}}} = 1 + a\ T_{\substack{\text{Horizontal} \\ \text{Nominal}}} - T_{\substack{\text{Vertical} \\ \text{Nominal}}}$$

Table 5-4
This table accompanies Section 4.6 "Post-launch Calibration", and should be added to the end of the SCAMS section of the User's Guide.

Table 4-9

Thermistor Calibration Constants
used to Calculate the SCAMS Target Temperatures

constant \ channel	1	2	3,4,5
a_0	298.16		
a_1	.46485	.46535	.46814
a_2	$3.0 \cdot 10^{-5}$	$2.9 \cdot 10^{-5}$	$3.0 \cdot 10^{-5}$
R_{25}	603.75	602.98	599.71
R_1	495.6		
R_2	603.4		
d_R (word no.)	1	11	2
d_{R1} (word no.)	61		62
d_{R2} (word no.)	71		72

$$T_{\substack{\text{Vertical} \\ \text{True}}} = 1 + b\, T_{\substack{\text{Vertical} \\ \text{Nominal}}} - b\, T_{\substack{\text{Horizontal} \\ \text{Nominal}}}$$

page 106

$$N_i = 256\ (T_{Hi} - 100) + T_{Vi} - 100$$

The following information supplements Section 5.3.2 in the User's Guide.

The display format and temperature ranges of the images in the swath displays for ESMR has been changed since launch. Only the full vertical scale (SCALE-F) is used, and its format has been changed to provide a better aspect ratio to each image. Each scan line of ESMR data is displayed twice (rather than once, as stated on the last line on page 103 of the User's Guide) and each of the 71 scan-spot elements across a scan is only displayed once (rather than twice, as stated on line three on page 104 of the User's Guide).

By displaying each of the 71 scan-spot elements only once the width of each swath is half the planned width. Therefore, the display format now contains 20 swaths in two groups of ten, each with its own TIME (and) SUBPOINT line. Each group of ten contains the same geographic coverage. The swaths within each group contain different temperature and polarization information. However, the temperature and polarization information for each group is similar. That is, the range of temperatures and the polarization for swath 1 are the same as for swath 11; similarly, swaths 2 and 12 are the same, etc. The swaths are not labeled, as planned. On these displays swath number 1 is on the far left, with numbers incrementing to swath number 20 on the far right. The tables here labeled 5-5 and 5-5a replace Table 5-5 on page 105 of the User's Guide. The new tables give the new brightness temperature values versus steps of the gray scale for each of the 20 swaths.

The ten swaths on the right half of each display show the earliest recorded data, and the ten on the left half show the latest recorded data. If the right set of ten swaths were cut and placed above the left set, the modified display would show the continuous coverage recorded for that orbit.

.5 ERB Corrections to the User's Guide

Post-launch calibration procedures are described below. While some numbers are for the period of this catalog, the calibration procedure is valid for all data. This information can be added as Section 6.5a to the User's Guide and would fit on page 134.

.5a Post-launch Calibration

The observations from the wide-angle channels (11 and 12), which measure the total energy (< 0.2 μm to > 50 μm) emitted and reflected by the earth, depend on the relaunch calibration and pertinent instrument temperatures. Assuming unit emissivity for the target scene, the irradiance from the scene is given by,

$$H_T = [\Delta W - \epsilon_s F_s \sigma T_s^4 + \epsilon_d F_d \sigma (T_d + K v)^4]$$

where

ΔW = effective thermopile irradiance (w m^{-2})

$\sigma = 5.6697 \times 10^{-8}$ w m^{-2} (deg. K)$^{-4}$

ϵ_s = emissivity of FOV stop = 0.965

F_s = view factor of the FOV stop = 0.18892

T_s = temperature (°K) of the FOV stop

Table 5-5
This table replaces Table 5-5 on page 105 in the User's Guide

Table 5-5

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays for Orbits 426 through 827 (14 July through 12 August 1975)

Gray Scale Number		Swath Number and ESMR Display Parameter									
		1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 $\frac{T_H+T_V}{2}$	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 $\frac{T_H+T_V}{2}$	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 $\frac{T_H+T_V}{2}$	10 and 20 (T_V-T_H)
(black)	1	> 200			> 250			> 300			> 50
	2	196-200	same	same	246-250	same	same	296-300	same	same	46-50
	3	193-196	as	as	243-246	as	as	293-296	as	as	43-46
	4	190-193	1 and 11	1 and 11	240-243	4 and 14	4 and 14	290-293	7 and 17	7 and 17	40-43
	5	187-190			237-240			287-290			37-40
	6	184-187			234-237			284-287			34-37
	7	181-184			231-234			281-284			31-34
	8	178-181			228-231			278-281			28-31
	9	175-178			225-228			275-278			25-28
	10	171-175			221-225			271-275			21-25
	11	168-171			218-221			268-271			18-21
	12	165-168			215-218			265-268			15-18
	13	162-165			212-215			262-265			12-15
	14	159-162			209-212			259-262			09-12
	15	156-159			206-209			256-259			06-09
	16	153-156			203-206			253-256			03-06
	17	150-153			200-203			250-253			00-03
(white)	18	< 150			< 200			< 250			< 00

T_H = Brightness temperature derived from the ESMR horizontal polarization channel data
T_V = Brightness temperature derived from the ESMR vertical polarization channel data

Table 5-6
This table follows the new Table 5-5 (above), which replaced
Table 5-5 on page 105 in the User's Guide

Table 5-5a

Brightness Temperature Value for each Step of the Gray Scale on ESMR Image Displays
for Orbits 828 through 1900 (13 August through 31 October 1975)
(Brightness Temperatures are in °K)

Gray Scale Number		Swath Number and ESMR Display Parameter									
		1 and 11 (T_H)	2 and 12 (T_V)	3 and 13 $\frac{T_H+T_V}{2}$	4 and 14 (T_H)	5 and 15 (T_V)	6 and 16 $\frac{T_H+T_V}{2}$	7 and 17 (T_H)	8 and 18 (T_V)	9 and 19 $\frac{T_H+T_V}{2}$	10 and 20 (T_V-0.6T_H)
(black)	1	> 200	> 230	> 210	> 250	> 270	> 250	> 290	> 300	> 280	> 140
	2	196-200	226-230	206-210	246-250	267-270	247-250	287-290	298-300	278-280	136-140
	3	191-196	223-226	203-206	243-246	264-267	244-247	284-287	295-298	275-278	133-136
	4	187-191	219-223	199-203	239-243	261-264	241-244	281-284	293-295	273-275	129-133
	5	183-187	215-219	195-199	235-239	258-261	238-241	278-281	290-293	270-273	125-129
	6	178-183	211-215	191-195	231-235	254-258	234-238	274-278	288-290	268-270	121-125
	7	174-178	208-211	188-191	228-231	251-254	231-234	271-274	285-288	265-268	118-121
	8	169-174	204-208	184-188	224-228	248-251	228-231	268-271	283-285	263-265	114-118
	9	165-169	200-204	180-184	220-224	245-248	225-228	265-268	280-283	260-263	110-114
	10	161-165	196-200	176-180	216-220	242-245	222-225	262-265	278-280	258-260	106-110
	11	156-161	193-196	173-176	213-216	239-242	219-222	259-262	275-278	255-258	103-106
	12	152-156	189-193	169-173	209-213	236-239	216-219	256-259	273-275	253-255	99-103
	13	148-152	185-189	165-169	205-209	233-236	213-216	253-256	270-273	250-253	95-99
	14	143-148	181-185	161-165	201-205	229-233	209-213	249-253	268-270	248-250	91-95
	15	139-143	178-181	158-161	198-201	226-229	206-209	246-249	265-268	245-248	88-91
	16	134-139	174-175	154-158	194-198	223-226	203-206	243-246	263-265	243-245	84-88
	17	130-134	170-174	150-154	190-194	220-223	200-203	240-243	260-263	240-243	80-84
(white)	18	< 130	< 170	< 150	< 190	< 220	< 200	< 240	< 260	< 240	< 80

T_H = Brightness temperature derived from the ESMR horizontal polarization data
T_V = Brightness temperature derived from the ESMR vertical polarization data

ϵ_d = emissivity of the thermopile = 0.977

F_d = view factor of the thermopile = 0.80461

T_d = temperature (°K) of the thermopile base

K = factor relating thermopile base temperature to thermopile surface temperature = 0.0031°K per count

v = thermopile output in digital counts

The effective thermopile irradiance (ΔW) is obtained from the thermopile output (v) as follows:

$$\Delta W = a_o (T_m) + a_1 (T_m) \cdot v$$

where

$$a_o = C_o + C_1 T_m,$$

and

$$a_1 = d_o + d_1 T_m$$

are derived from prelaunch calibrations and depend on the module temperature (T_m, °C). The coefficients C_o, C_1, d_o, d_1 are given below. In calibrating channel 11 and channel 12 (W) with the FOV stop out, the quantity F_s in the equation for H_T is set to zero.

	Ch. 11	Ch. 12 (W)	Ch. 12 (N)
C_o:	9.86	10.4	8.38
C_1:	0.18358	0.23235	0.18483
d_o:	0.6042	0.6035	0.6014
d_1:	-8.254×10^{-4}	-6.109×10^{-4}	-5.879×10^{-4}

The observations from the other two wide-angle channels (13 and 14), which measure the shortwave radiation (0.2 μm to 4.0 μm), and (0.7 μm to 3.0 μm), are transformed to irradiance (H) by,

$$H = \frac{(V-V_o)}{S_T}$$

where V is the digital counts, V_o is the offset (in counts) observed from dark FOV's, and S_T is the sensitivity (w m^{-2} $count^{-1}$) obtained from the equation: $S_T + S_o (1+(0.01) \cdot (T-25) \cdot STC)$, where S_o is the sensitivity at 25°C, T is the detector temperature (°C), and STC is the sensitivity temperature coefficient (percent per degree C). These constants are given below:

Ch	V_o	S	STC
13	-41	2.004	0.04
14	-44	3.989	0.03

The interpretation of digital counts (V) from the shortwave scanning channels (15-18) gives the radiance (w m^{-2} sr^{-1}) of the scene (N_s) by,

$$N_s = \frac{(V-V_o)}{S_T}$$

where V_o is the offset (counts) obtained during views of the internal blackbody or space. The sensitivity S_T at temperature T(°C) is obtained using the equation for S_T described above, and the constants given below.

Ch	V_o	S	STC
15	-3	3.155	0.0
16	0	3.275	0.03
17	-1	3.116	-0.01
18	15	2.963	-0.05

A series of checks on the sensitivity of these channels, using the on-board diffuse target, indicated no noticeable degradation over the July-August period of operation.

The longwave scanning channels (19-22) have had numerous inflight calibrations which have remained essentially unchanged since 3 July. The calibration coefficients, a_o and a_1 relate digital counts (V) to the scene radiance N (w m^{-2} sr^{-1}) as follows:

$$N_s = N_m + a_o + a_1 \cdot V$$

where N_m is the radiance of the detector module. The radiance N_s is the actual radiance measured within the spectral limits of the filter (4.5 μm to 50 μm). The calibration coefficients, obtained from inflight calibrations on 3 July, are as follows:

Ch	a_o	a_1
19	-0.82	0.09583
20	-0.60	0.10535
21	-1.26	0.10168
22	-0.29	0.10338

The deviations of these calibration coefficients as derived from inflight calibrations from 29 July to 20 August are shown in Table 6-6a. The only change which indicates a need for updating the calibration coefficients is the change in the intercept of channel 20.

Periodic checks of the electronic gains of channels 1 through 14 have shown that the electronic gains have remained within 0.5 percent of the prelaunch values, with few exceptions. Table 6-6b shows the percentage of maximum deviation in the gain ratios (current/prelaunch) for the three steps in the calibration staircase voltage. The 6.5 percent change in the high-level gain of channel 2 and the gain changes in channels 6, 7, and 8 are believed to be caused by radio-frequency interference with the electronic calibration circuit and is neither a real change in the electronic gain nor nonlinearities of the channels.

Table 5-7

This table is part of the new Section 6.5a "Post-launch Calibration" to be added to the ERB section of the User's Guide

Table 6-6a

Stability of Calibration of the
ERB Longwave Scanning Channels
(between 29 July and 20 August 1975)

	Channel 19		Channel 20		Channel 21		Channel 22	
Date	Δa_o	Δa_1	Δa_o	Δa_1	Δa_o	Δa_1	Δa_o	Δa_1
7/29	-0.07	-0.4	1.12	0.5	-0.07	-0.4	0.36	-0.3
8/5	0.50	-0.3	1.22	0.1	0.08	-0.3	0.11	-0.2
8/8	0.68	-0.4	1.33	0.1	0.04	-0.2	-0.003	-0.1
8/12	-0.06	-0.2	0.74	-0.4	-0.09	-0.3	0.17	-0.2
8/17	0.69	-0.3	1.49	0.2	0.20	-0.3	0.16	-0.2
8/20	-0.22	-0.3	1.53	0.2	0.04	-0.2	0.13	-0.4

Δa_o = change in intercept (w m^{-2} sr^{-1})

$= (a_o)_{current} - (a_o)_{7/3/75}$

Δa_1 = change in slope (% w m^{-2} sr^{-1} ct^{-1})

$$= \frac{[(a_1)_{current} - (a_1)_{7/3/75}]}{(a_1)_{7/3/75}} \times 100$$

Table 5-8

This table is part of the new Section 6.5a "Post-launch Calibration" to be added to the ERB section of the User's Guide

Table 6-6b

Percentage Change of the Maximum Deviation in the Gain Ratio between Post-launch and Prelaunch Gain Values for ERB channels 1 through 14 (20 June and 17 August 1975)

Ch	$G_{0\text{-}39}$	$G_{30\text{-}60}$	$G_{60\text{-}90}$
1	-0.2	0.2	-0.1
2	0.1	-0.3	-6.5
3	±0.1	-0.1	-0.2
4	±0.1	-0.2	-0.1
5	±0.1	-0.2	0.2
6	2.6	1.8	-2.1
7	1.3	2.1	-0.6
8	1.6	1.3	-0.9
9	0.4	-0.6	±0.1
10	0.7	-0.5	±0.2
11	-0.4	0.3	0.4
12	0.2	-0.2	0.4
13	-0.3	0.2	0.3
14	+0.2	-0.1	0.3

Table 6-7, the ERB Compacted Archival Tape Format, on pages 136 through 139 of the User's Guide, should be changed as follows:

Directory Record (Page 136)

Delete last line of section A which reads:

"135-340		1"

and add the following:

135-149	Orbital Elements	
135	Day of Epoch	1
136	Year of Epoch	1
137	Hours	1
138	Minutes (including fraction)	100
139	Eccentricity	10^5
140	Argument of Perigee (integer part)	1
141	Argument of Perigee (fraction part)	10^3
142	Right Ascension (integer part)	1
143	Right Ascension (fraction part)	10^3
144	Inclination (integer part)	1
145	Inclination (fraction part)	10^3
146	Semimajor Axis (km, integer part)	1
147	Semimajor Axis (km, fraction part)	10^3
148	Mean Anomaly (integer part)	1
149	Mean Anomaly (fraction part)	10^3
150	Sun-Earth Distance (A. U.)	10^4
151-340	Zero fill	1

Orbital Summary Record (Page 139)

Delete last line of table, which reads:

17-340	Zero fill	1"

and add the following:

17-26	Solar Irradiances (Chs. 1-10) Normalized to mean sun-earth distance	Chs. 1-5:10 Chs. 6-10:100
27	Solar Channels Assembly Gamma Angle (positive to right of track)	1
28-340	Zero fill	1

5.6 LRIR Corrections to the User's Guide

Table 5-9

Post-launch analysis of relative spectral response data and orbital data leads to the following corrected values for Table 7-2, on page 154 of the User's Guide.

Table 7-2

Optical Characteristics of LRIR Channels

Channel		Band Pass (50% Peak Response)	Field-of-view (km)		Random noise in orbit* $\pm 1\sigma$(watts/m^2-sr)
No.	Abbrev.		Vertical	Horizontal	
1	NCO_2	649-672 cm^{-1} (14.9-15.4 μm)	2.0	20	0.0023
2	BCO_2	592-700 cm^{-1} (14.3-16.9 μm)	2.0	20	0.0040
3	O_3	984-1169 cm^{-1} (8.6-10.2 μm)	2.0	20	0.011
4	H_2O	412-446 cm^{-1} (22.4-24.3 μm)	2.5	25	0.008

*Noise will gradually increase as the detector temperature increases during the useful life of the experiment.

5.7 PMR Corrections to the User's Guide

There are no PMR corrections to the User's Guide.

5.8 TWERLE Corrections to the User's Guide

Table 5-10

The following are address changes to Table 9-2
on page 186 in the User's Guide.

Table 9-2

Nimbus RAMS Experiments - Address Changes

Address Changes

OLD	NEW
Mr. G. R. Cresswell Division of Fisheries & Oceanography Commonwealth Scientific & Industrial Research Organization Melbourne, Australia	Mr. G. R. Cresswell Division of Fisheries & Oceanography CSIRO P. O. Box 21 Cronulla, N. S. W. 2230 Australia
A. J. Dyer CSIRO P. O. Box 77 Mordialloc, Vic 3195 Australia	Dr. A. J. Dyer Division of Atmospheric Physics CSIRO Station Street ASPENDALE 3195 Victoria, Australia
Professor Pierre Lacombe, Director Laboratory d'Oceanographic Museau Historie Naturelle de Paris 43 Rue Cuvier Paris, France	Professor Pierre Lacombe, Director Laboratoire d'Oceanographie Physique Museum National d'Histoire Naturelle 43-45 Rue Cuvier 75005 Paris, France
Professor P. Tchernia Museum d'Historie Naturelle de Paris 43 Rue Cuvier Paris, France	Professor P. Tchernia Laboratoire d'Oceanographie Physique Museum National d'Histoire Naturelle 43-45 Rue Cuvier 75005 Paris, France

Table 9-2 (Continued)

Dr. Norbert Untersteiner, Program Director Project AIDJEX 4059 Roosevelt Wave, N. E. Seattle, WA 98105	Dr. Norbert Untersteiner AIDJEX Coordinator University of Washington 4059 Roosevelt Way, N. E. Seattle, Washington 98105
Dr. Donald V. Hansen, Director Physical Oceanography AOWL NOAA U. S. Department of Commerce Miami, Florida	Dr. Donald V. Hansen, Director Physical Oceanography Laboratory AOML/NOAA 15 Rickenbacker Causeway Virginia Key Miami, Florida 33149
Vincent E. Lally National Center for Atmospheric Research P. O. Box 1470 Boulder, Colorado 80302	Mr. Vincent E. Lally National Center for Atmospheric Research P. O. Box 3000 Boulder, Colorado 80302
J. Lentfer Wildlife Research U. S. Department of Interior 813 D. Street Anchorage, Alaska	Mr. Jack W. Lentfer Fish and Wildlife Service Department of Interior 4454 Business Park Blvd. Anchorage, Alaska 99503
H. Brann Bureau of Meteorology Melbourne, Victoria Australia	Mr. H. N. Brann Bureau of Meteorology P. O. Box 1289K Melbourne, Victoria 3001 Australia
Robert Kee Development Engineering Division Code 6201 U. S. Naval Oceanographic Office Washington, D. C. 20390	Mr. Robert Kee Code 6220 U. S. Naval Oceanographic Office Washington, D. C. 20373

Table 9-2 (Concluded)

F. Anderson South African Council for Scientific & Industrial Research Congella, Natal, South Africa	Mr. Frank P. Anderson CSIR; Institute for Technology P. O. Box 17001 Congella 4013 South Africa
H. Stommel Professor of Oceanography MIT Cambridge, Massachusetts	Professor Henry Stommel Department of Meteorology Room 54-1416 Massachusetts Institute of Technology Cambridge, Massachusetts 02139
B. Buck Polar Research Lab. Santa Barbara California 93101	Mr. B. M. Buck, President Polar Research Laboratory, Inc. 123 Santa Barbara Street Santa Barbara, California 93101
John A. Knauss Graduate School of Oceanography University of Rhode Island Kingston, Rhode Island 02881	Dr. P. L. Richardson Woods Hole Ocean Institute Woods Hole, Massachusetts 02543

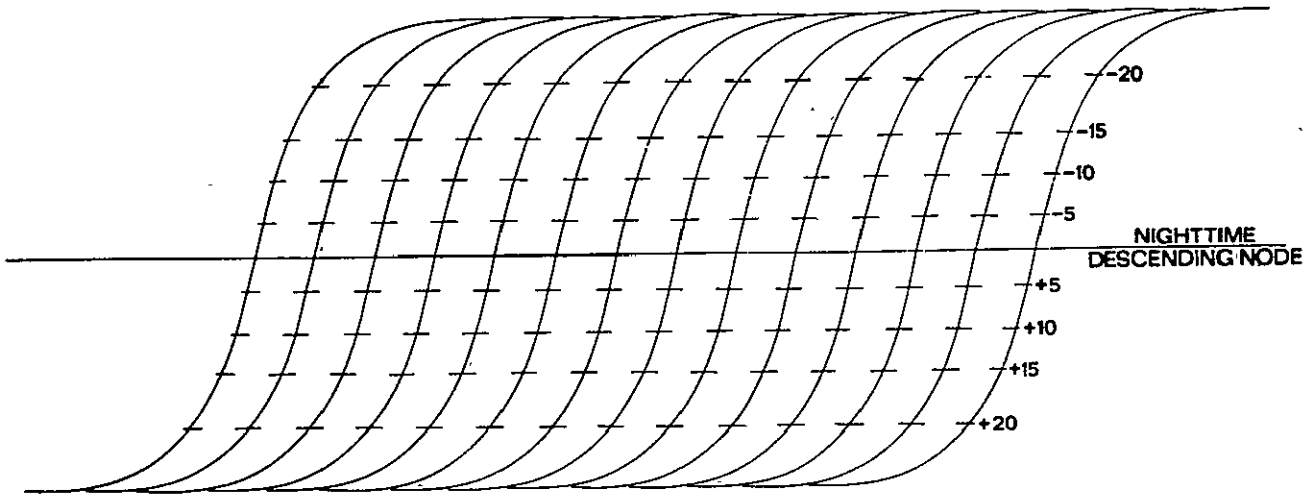
5.9 T&DRE Corrections to the User's Guide

There are no T&DRE corrections to the User's Guide.

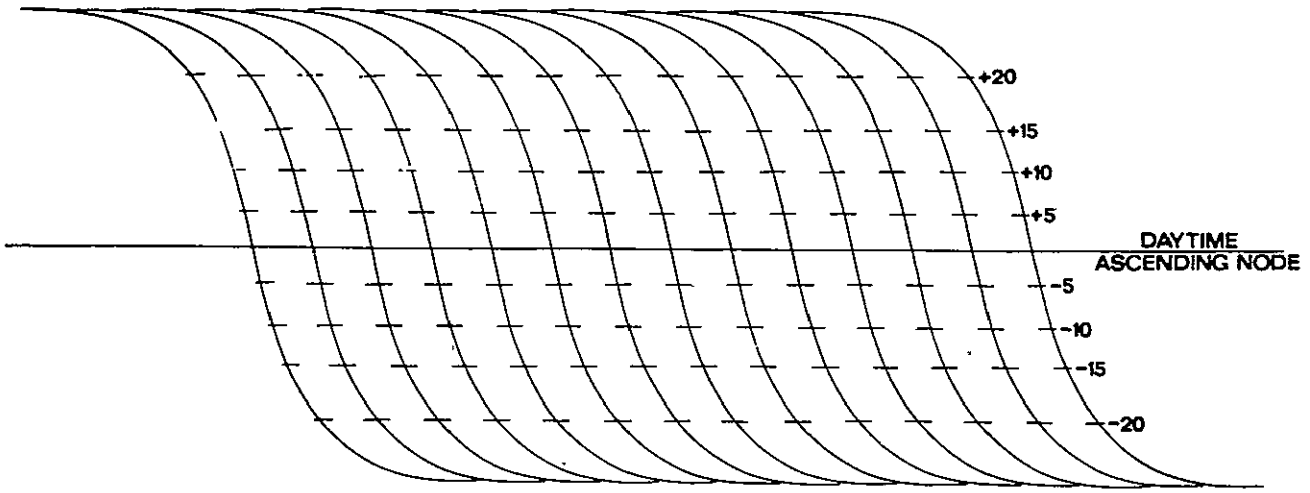
Table 5-11

The following are new TWERLE users, added since launch.
This information should be added to Table 9-2
(Nimbus RAMS Experiments) on page 186 in the User's Guide.

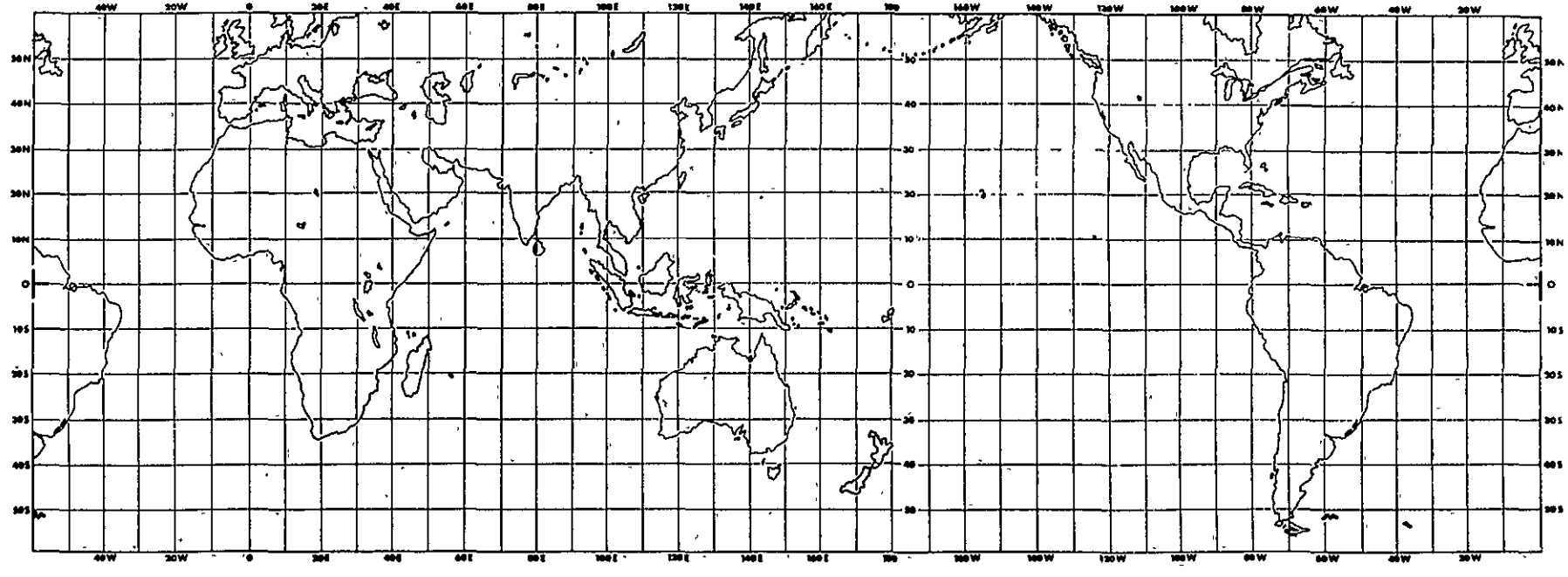
Principal Investigator	Experiment Title	Platform		
		Number	Type	Deployment Area
Dr. A. D. Kirwan, Jr. Department of Oceanography College of Geosciences Texas A & M University College Station, Texas 77843	Anomaly Dynamics Study (ADS)	32	Drifting Buoys	North Pacific
Mr. David F. Thomas, Jr. SATD-MEB-SDS, Mail Stop 322 NASA Langley Research Center Hampton, Virginia 23665	Air-droppable In Situ Platforms for Long Duration Measurements near Hurricanes	10	Ocean Platforms	Western Atlantic near North America
Dr. P. Roger Williamson Department of Applied Physics & Information Science University of California – San Diego LaJolla, California 92037	Stratospheric Monitoring with Longterm Balloon Flights	3	Super-pressure Balloons	Southern Hemisphere
Mr. J. C. O'Rourke Canadian Marine Drilling Ltd. P.O. Box 200 Calgary, Canada T2P 2H8	Arctic Ice Dynamics	2-4	Sea Ice Platforms	Beaufort Sea
Dr. J. Michael Hall NOAA Data Buoy Office National Space Tech Office Bay St. Louis, Mississippi 39520	East Coast Drifting Experiment	24	Drifting Buoys	Atlantic Ocean
	High Impact Detection and Determination on Large Buoys	10	Buoy	Atlantic Ocean, Gulf of Mexico, & North Pacific Ocean
	Reliability Enhancement Experiment	3	Buoy	Santa Barbara, California & Arctic Ocean



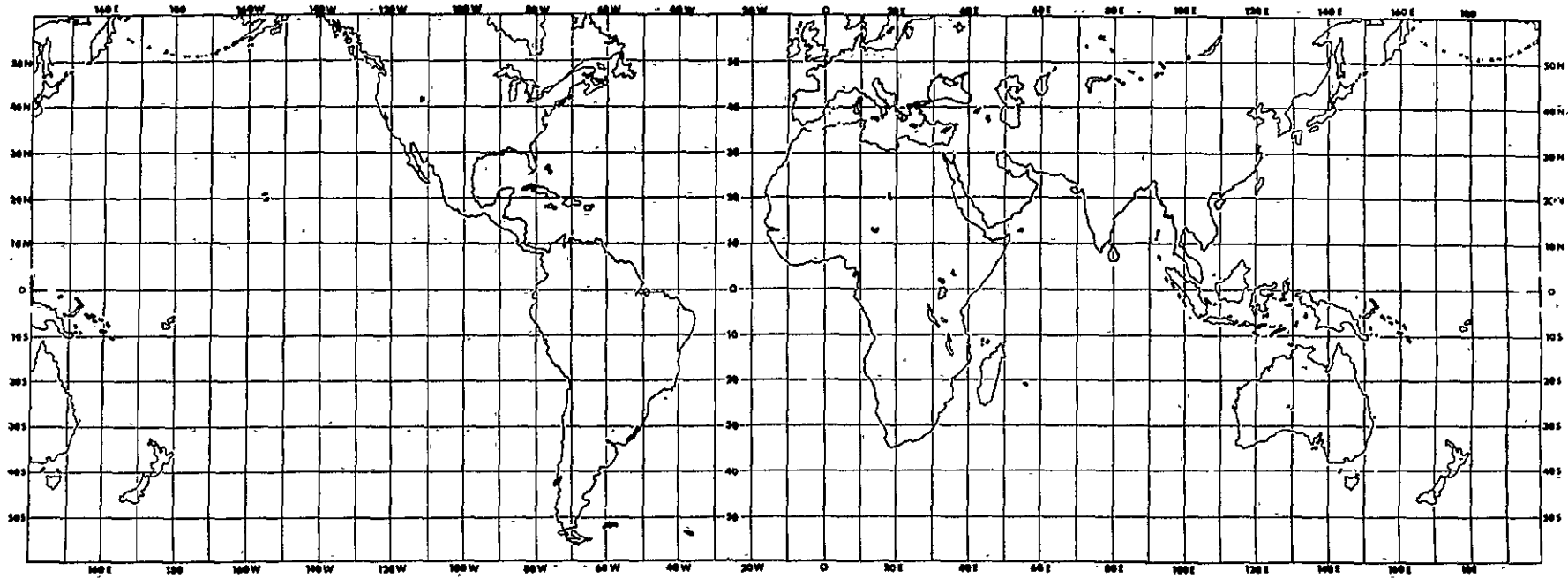
NIMBUS SUBSATELLITE TRACKS OVERLAY



NIMBUS SUBSATELLITE TRACKS OVERLAY



Location Guide
Average Scale for Nimbus
THIR Nighttime Montages



Location Guide
Average Scale for Nimbus
THIR Daytime Montages